



PROGRAM BOOK

IEEE RO-MAN2017

26th IEEE International Symposium on Robot and Human Interactive Communication

August 28 - September 1, 2017
Lisbon, Portugal

Conference theme:

*Human-Robot Collaboration and Human Assistance
for an Improved Quality of Life*



UNIVERSIDADE DE COIMBRA

Program Book

26th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN2017)

August 28 – September 1, 2017
Pestana Palace Hotel, Lisbon, PORTUGAL

Conference theme:
Human-Robot Collaboration and Human Assistance for an Improved Quality of Life

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UNIVERSIDADE DE COIMBRA

MESSAGE FROM THE CHAIRS

The 26th IEEE International Symposium on Robot and Human Interactive Communication, RO-MAN 2017, is held in Lisbon, Portugal, from August 28 to September 1, 2017. RO-MAN 2017 is a leading forum where state-of-the-art innovative results, the latest developments as well as future perspectives relating to robot and human interactive communication are presented and discussed. The Symposium theme of this year is Human-Robot Collaboration and Human Assistance for an Improved Quality of Life. This is a real challenge that our Society is facing in these years: new generations of interactive and co-operative robots are being developed for a variety of application domains. Current jobs are expected to be dramatically re-engineered, new jobs will be enabled, novel robot-based products and services are forecasted to have a dramatic impact on the market in the next decades. We are very happy that this edition of the successful RO-MAN Symposia is able to provide a clear picture of most important research developments in all areas related to human-robot interactive communication and co-operation: this year we received a record number of a total of 325 paper submissions from 40 countries, plus 6 special sessions and 18 workshops and tutorials proposals. Contributions span over the study of the robotic technology, psychology, cognitive science, artificial intelligence, human factors, interaction-based, user driven robot design, and many other topics related to human-robot interaction. We accepted 232 paper contributions, which were organized in 28 regular parallel sessions, in 6 special sessions, and in 1 poster session. Overall, the RO-MAN 2017 program spans over 5 days, with two days fully devoted to a very exciting set of top-level workshops and tutorials which will deliver specific insights on hot research topics and on-going projects. The conference program also includes three plenary talks delivered by prominent scholars selected from the research communities worldwide, namely Manuela Veloso (CMU, USA) on “Human-AI interaction in autonomous intelligent service robots”, Abderrahmane Kheddar (CNRS, France and AIST, Japan) on “Comanoids: Collaborative Humanoid Robots”, and Bram Vanderborght (Vrije Universiteit Brussel, Belgium) on “Human-human collaboration for better human-robot collaboration”. A Round Table will gather experts from academia, industry and governmental agencies to open a window on the “New challenges for human-robot Interaction, communication and co-operation in the Industry 4.0 and beyond”. Moreover, RO-MAN 2017 being hosted by Lisbon, where one of the ERL-SR test beds is located, was an unique opportunity to hold a ERL-SR Major Tournament co-located with the conference. We would like to express our thanks to all participants. First, to the authors, whose quality work is the essence of the conference. Next, our thanks go to all the members of the Organizing and Program Committees. We are personally indebted to all of them, and especially to the Program Co-chairs, Wolfram Burgard, Michelle Johnson and Yasushi Nakauchi. A special mention for the contributions provided by the General Co-Chair, Paulo Peixoto, the Junior Program Chair, Domenico Formica and by the Conference Program Manager, Antonella Benvenuto. The whole conference was actually enabled by the competent effort of the Editors, Hayanna Howard, Kenji Suzuki and Loredana Zollo, who directly supervised the review exercise carried out by 70 Associate Editors and 560+ Reviewers, who timely delivered high-quality reviews and decision reports. We are fully confident that RO-MAN 2017 will be a forum with a favourable atmosphere for you to participate in fruitful scientific discussions, and to increase your knowledge and network. We welcome you to Lisbon, a city full of authenticity where old customs and ancient history intermix with cultural entertainment and hi-tech innovation, and we hope that your participation in RO-MAN 2017 will be a most rewarding experience.



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RO-MAN2017 General Chair



Eugenio Guglielmelli
RO-MAN2017 Program Chair

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GENERAL INFORMATION

Registration Desk Hours

The conference registration desk will be located at the Foyer of Belém rooms.

Day	Date	Time
Monday	August 28	08:00 – 18:00
Tuesday	August 29	08:00 – 18:00
Wednesday	August 30	08:30 – 17:30
Thursday	August 31	08:30 – 13:00
Friday	September 1	08:00 – 15:30

WiFi Information

No password is required. Please use the “pestana guest” network.

Coffee Breaks and Lunch Breaks


There will be coffee breaks for all registered attendees during the conference. On the main conference days, Tuesday and Wednesday, lunch will be provided at the venue. On Monday there will be a welcome dinner and on Wednesday a conference banquet, as detailed in the social events section.




Proceedings

The conference proceedings are distributed to attendees on a USB flash drive, and later made available at the IEEE Xplore Digital Library. A mobile app with the full conference program and location map is available during the conference: <http://ras.papercept.net/conferences/conferences/ROMAN17/app/app.html>. (QR code in the Program Book back cover)

Hotels

Besides the venue hotel, Pestana Palace Hotel, there are three additional key hotels as shown in the map.

- Convergence Venue**
 -  RO-MAN2017 - Conference Venue

- Hotels**
 -  Hotel Jerónimos 8
 -  Hotel Vila Galé Ópera
 -  Hotel Marquês de Pombal



Transports to Conference Venue

For your reference the address and hotel contacts are:

Pestana Palace Lisboa
Rua Jau, 54, Alcântara
1300-314 Lisboa, Portugal

GPS coordinates: Lat N 38 42.246 Long W 9 11.216
Email: guest@pestana.com
Tel: (+351) 213 615 600 / 210 401 711

Transport and directions information can be found at: <https://www.pestana.com/uk/hotel/pestana-palace>
and at the Lisbon Tourism Office web page: <http://www.visitlisboa.com/>

Electricity and Power Supply: The standard power outlet voltage in Portugal is 220 V, 50Hz AC, using the European standard electrical socket types (the "Type C" Europlug and the "Type E" and "Type F" Schuko).

Useful Telephone Numbers: Emergency Number: dial 112 for police, ambulance or fire (free of charge).

LOCATION AND VENUE

Welcome to Lisbon

Lisbon is the capital of Portugal and the country's biggest city, with a population of slightly above half a million, located on the estuary of the Tagus river (Rio Tejo), on the European Atlantic Coast. It is continental Europe's westernmost capital.



Lisbon is a historical city full of stories to tell, where the sun shines 290 days a year and the temperature rarely drops below 15°C. A city where you feel safe wandering around day or night, a city full of authenticity where old customs and ancient history intermix with cultural entertainment and hi-tech innovation.



You may love Lisbon for the monuments, ideal conditions for the practice of sport or delicious gastronomy. Lisbon welcomes you with a rich cultural heritage that continues to grow every day.

Lisbon's hustle and bustle, all its museums, many restaurants, bars, pavement cafés and busy nightlife are a mere 15 minute away either by public transportation or by taxi, never too expensive. The Docas de Santo Amaro, a well-known area in which to enjoy Lisbon's exuberant nightlife, is located not far from the hotel.

Also located near the Hotel, is Belém, home to the most significant historical treasures in Lisbon. There you will find 16th-century architecture, such as the Manueline styled Mosteiro dos Jerónimos, Torre de Belém and glorious Padrão dos Descobrimentos. The prestigious Centro Cultural de Belém is the largest building in the country devoted to cultural facilities and is also located in the area, as well as the Casa Pastéis de Belém, where the famous pastries are made.



A short drive will take you to the best beaches of the coast of Estoril, Cascais and the fairy-tale palaces and castles of Sintra.



Lisbon's history dates back to 300,000 years ago. However, it emerged as a nation state in the early 12th century and ranks as one of the world's longest founded cities. As the legend tells, it is a city founded and named by Ulysses as Ulissipo or Olissopo, which has its origins in the Phoenician words "Allis Ubbo", meaning "enchanted port". It is from there, according to legend, that Lisbon got its name.

The 15th century was the point of departure for the Portuguese Discoveries, an era during which Portugal enjoyed abundant wealth and prosperity.

Many attractions of the city at present such as Mosteiro dos Jerónimos and Torre de Belém, both classified by UNESCO as World Heritage Sites, were built during this period. However, this era didn't take long: the earthquake of 1755 destroyed nearly entire city. The city was rebuilt by the Marquês de Pombal, who thus created the Baixa Pombalina, a commercial area that still attains attraction. In the 19th and 20th centuries, the city spread progressively to the North and areas such as the Avenidas Novas (New Avenues) were added. Today, Lisbon is one of the most beautiful capitals of Europe while still maintaining the marks of its early glorious history.

For more detailed information about Lisbon and surroundings, please visit the Lisbon Tourism Office web page: <http://www.visitlisboa.com/> .

CONFERENCE VENUE

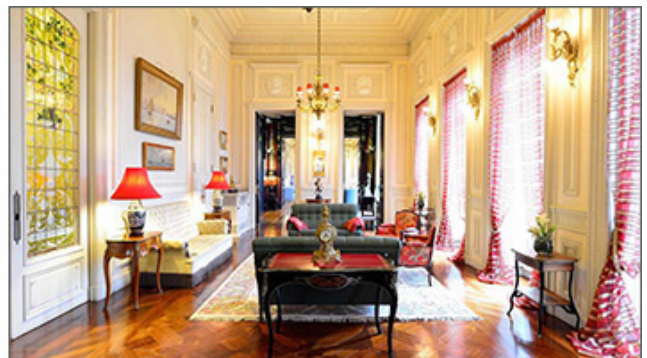
The conference will be held at the Pestana Palace Hotel, one of the finest hotels in Lisbon, a 5-star hotel housed in a 19th-century palace. The palace and lush gardens, with a variety of plants and subtropical trees, are classified as national monuments. The Hotel is located 10 Km (6,2 miles) away from the Lisbon International Airport.



The Conference Center is spread between new buildings in the hotel gardens and the former coach house of the palace. This infrastructure of recognized quality offers meeting rooms equipped with air conditioning, most of them enjoying natural light and stunning views over the Tagus River.



The hotel has 194 rooms. In the main Palace building we can find the chapel and the hotel's service areas (porter and reception, salons, bar and the Valle Flôr restaurant), small meeting rooms and 4 Royal Suites.

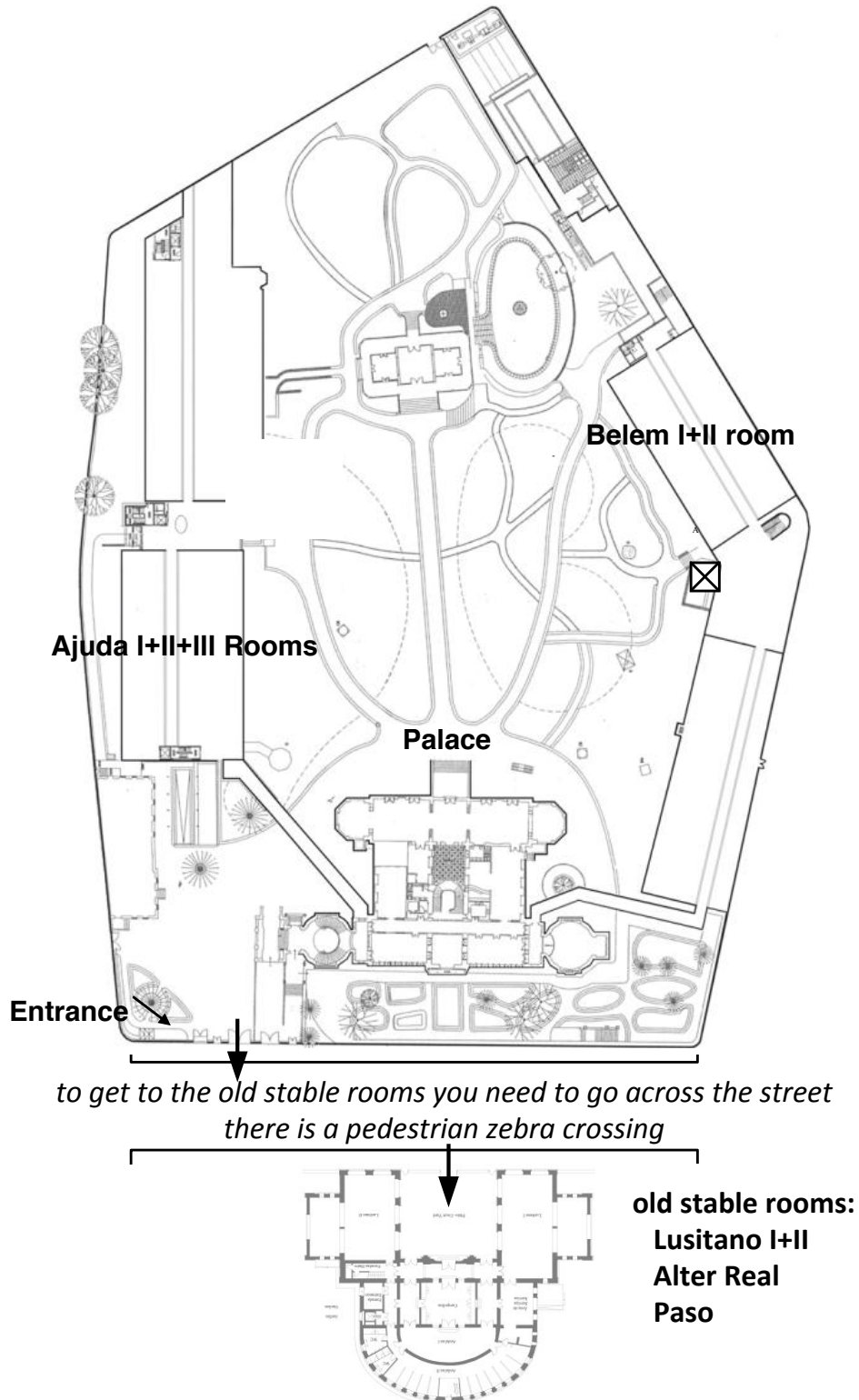


More information about the Venue Hotel and Conference Center can be found at <https://www.pestana.com/uk/hotel/pestana-palace>

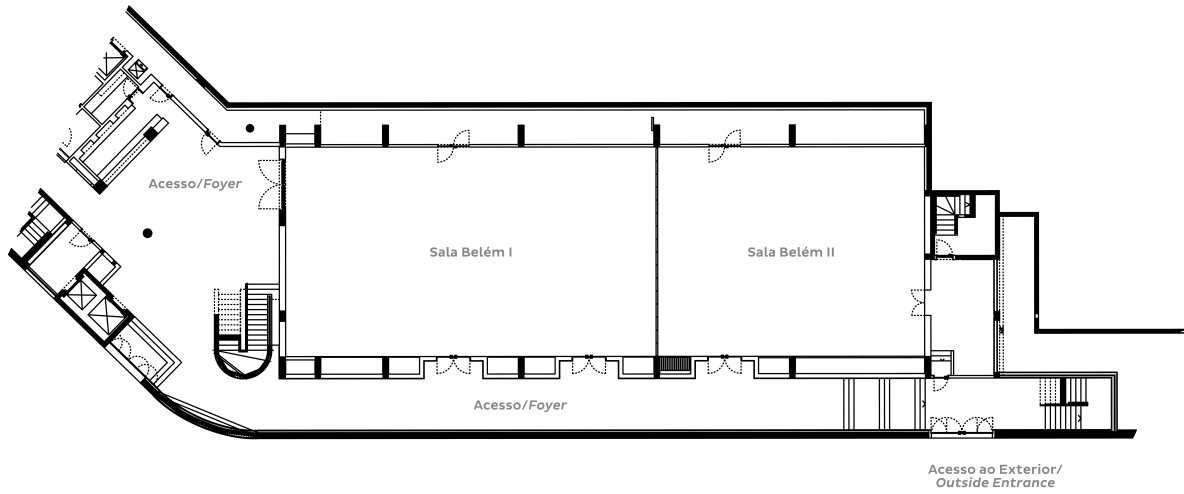
HOTEL CONFERENCE CENTER MAP AND FLOOR PLAN

The conference rooms for RO-MAN 2017 are spread between the gardens of the palace hotel and the old stable rooms across the street, the former coach house of the palace.

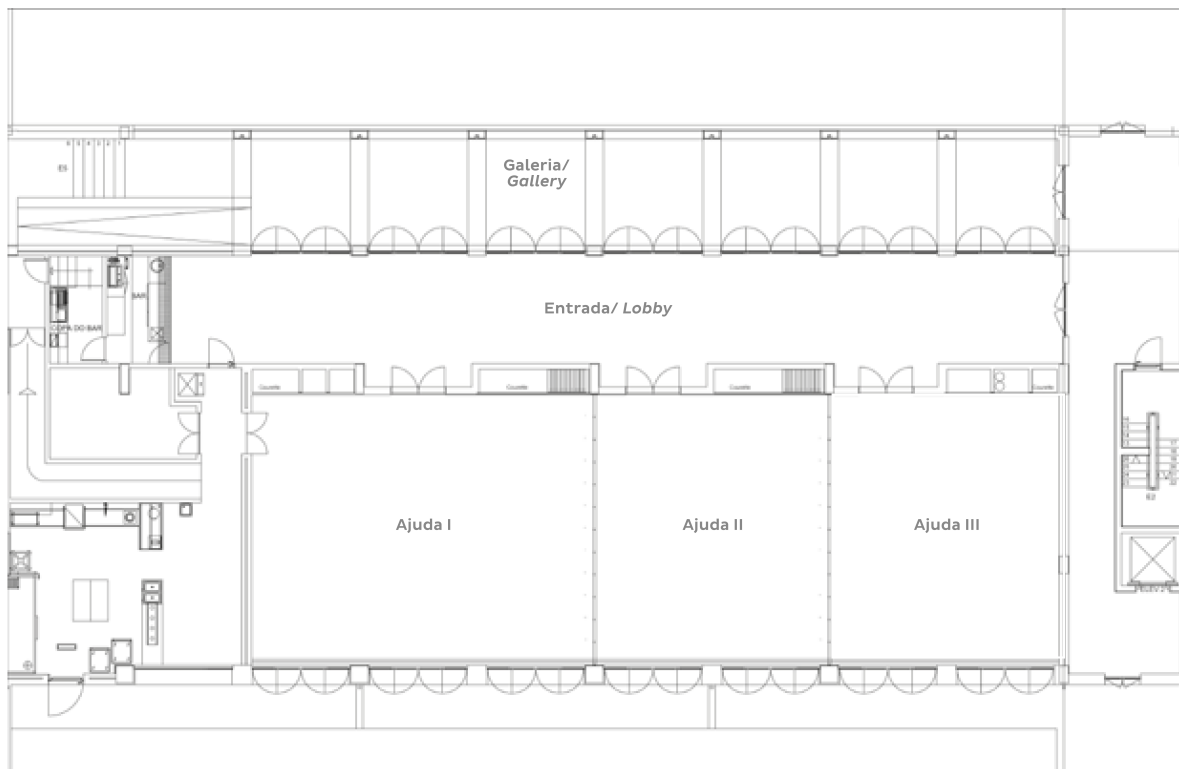
Technical sessions will take place in the following rooms:



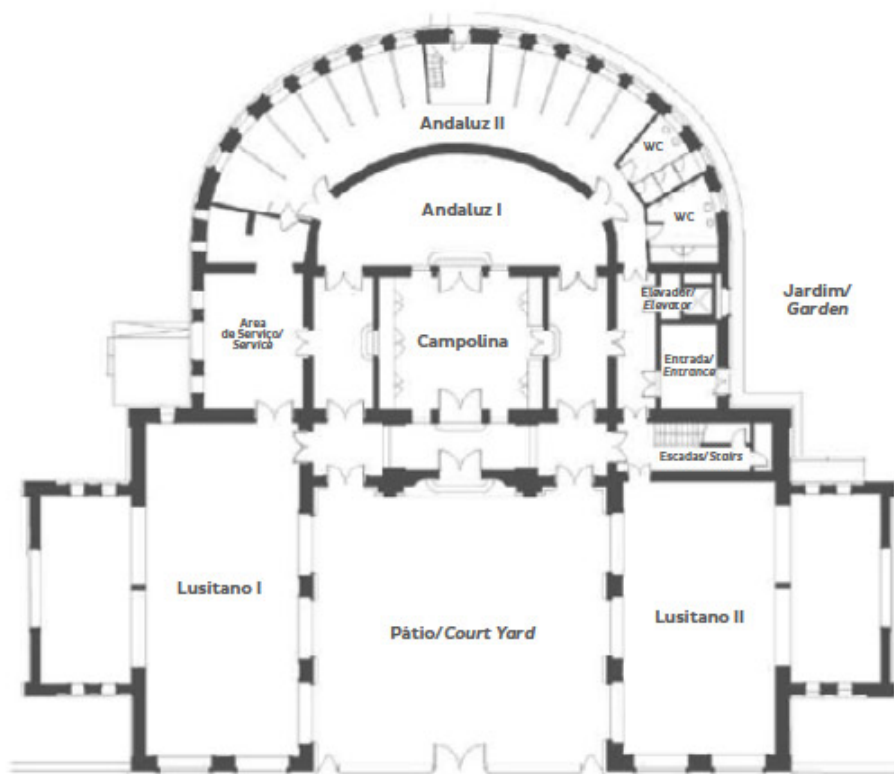
Belém rooms (-1 floor):



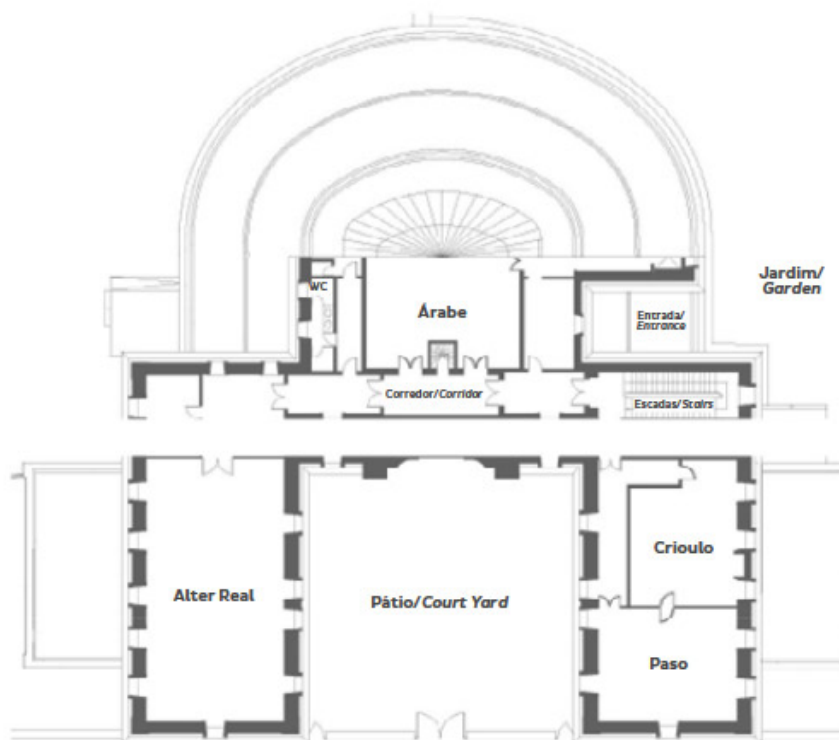
Ajuda rooms (ground floor):



Old Stables (ground floor):



Old Stables (1st floor):



SOCIAL EVENTS AND TECHNICAL TOUR

Welcome Reception/Dinner

Monday, August 28, 2017 7:30pm

On the first day of the conference there will be a welcome reception dinner at the venue. It will take place in Lusitania I and Lusitania II rooms and adjoining gardens.

Conference Banquet

Wednesday, August 30, 2017 6:30pm (*departure from Pestana Palace Hotel*)*

The Banquet will take place at Forte de São Julião da Barra on Wednesday evening. Forte São Julião da Barra is a seafront fortress built in the second half of the XVI century on the mouth of the Tagus river to reinforce Lisbon's defenses, and was considered to be the stronghold shield of the Kingdom. It has played many roles throughout history, and while still being under the jurisdiction of the ministry of defense, is available to host special events.

**A bus transfer will be available departing from the Pestana Palace Hotel.*

Technical Tour

August 31, 2017

13:15 - Departure from the Hotel Pestana Palace to the Belém area.

13:30 - Break for lunch (lunch is not included in this tour).

15:00 - Visit to the Jerónimos Monastery, a masterpiece of the Manueline style; built in 1502 it is the finest example of the Gothic-Naturalist (the ambiental decoration named Manueline).

16:00 - Continuation to IST Robotics Labs

16:30 - Arrival at IST Robotics Labs (RO-MAN 2017 ERL-SR Final Competitions)

18:00 - Continuation to the Hotel Vila Galé Ópera and Hotel Pestana Palace.

Price per person: 29.00 €

It Includes:

- Deluxe airconditioning motorcoach;
- Official english speaking guide;
- Expenses with driver and guide;
- Entrance ticket at the Jerónimos Monastery

(minimum of 35 persons; if the tour is cancelled, a refund will be made to those that already paid the tour)

AWARDS

RO-MAN2017 awards

The conference has three award categories:

- 1) The RO-MAN Best Paper award of 1,000 Euros will be awarded to the paper considered overall the best contribution by the Awards Committee.
- 2) The Kazuo Tanie award (JPY 100,000) will go to the best paper focusing on practical application or one that can be applied to real products in the view of the Awards Committee.
- 3) The Distinguished Interdisciplinary Research prize. This will go to the best paper submitted by an interdisciplinary group in the opinion of the Awards Committee and it is a cash prize (1,000 Euros) given jointly by the Korean Robotics Society and the Robotics Society of Japan.

The award winners will be announced in the closing session on Thursday, August 31, starting at 11:45 in Belém I+II room.

EXHIBITION AND COMPETITIONS

Exhibition of the TIAGo robot

During the conference, in the hallways near Ajuda rooms there will be an exhibition of the TIAGo robot. TIAGo is a mobile manipulator designed and built by Spanish company, PAL Robotics.

With 12 degrees of freedom, 100% ROS-compatible software and an interchangeable end-effector (five finger hand or parallel gripper). TIAGo is a versatile robot with modular capabilities that make it perfect for research into navigation, vision and human-robot interaction in sectors such as assisted living or light industry.

The robot has a mobile base with a combination of lasers, sonars and actuated sensors, a max. speed of 1m/s and batteries that provide up to 10 hours of autonomy. The arm has a workspace of 86cm and a maximum payload of 3kg without the end-effector.

TIAGo will be demonstrating capabilities including Whole Body Control, autonomous navigation and gravity compensation at RO-MAN 2017, so take a minute to stop by and watch a demonstration in between presentations!



RO-MAN 2017 ERL-SR Competitions

Competitions will take place at IST, University of Lisbon, and the finals will be visited as part of the technical tour on the 31st of August.

The European Robotics League (ERL) is a novel common framework for two indoor robot challenges, ERL Industrial Robots and ERL Service Robots, and one outdoor robot challenge, ERL Emergency Robots. These three unique challenges aim at replicating consistent benchmarking results more than stating a winner of a single event, and have been designed to target three clear objectives: the European societal challenge of aging population, the strengthening of the European robotics industry and to push the state of the art in autonomous systems for emergency response. The European Robotics League local and major tournaments are based in Europe and are open to international participation. The indoor challenges are supported by an increasing number of benchmarking testbeds across Europe where researchers compete, meet, discuss, learn and improve. ERL Service Robots (ERL-SR) is a challenge that aims at bringing together the benefits of scientific benchmarking with the attraction of robot competitions in the realm of domestic service robotics, where robots interact with humans to help them in the domestic chores. Thus, RO-MAN 2017 being hosted by Lisbon, where one of the ERL-SR test beds is located, was an unique opportunity to hold a ERL-SR Major Tournament co-located with the conference, simultaneously making it the conference Competitions Track.

All the information about RO-MAN 2017 ERL-SR competitions will be regularly updated at <https://sites.google.com/site/erlsrroman2017/>. On the afternoon of August 31, a tour to visit IST Robotics Labs and see the finals of the competitions will be organised. On September 1, one of the Workshops will **focus on robot competitions**. Do not miss these events!

PLENARY TALKS

Plenary Talk

Human-AI Interaction in Autonomous Intelligent Service Robots

Manuela Veloso

School of Computer Science, Carnegie Mellon University, USA



Tuesday, August 29, 2017

09:30-10:30 Belém I + Belém II

Abstract: We research on autonomous mobile robots with a seamless integration of perception, cognition, and action. In this talk, I will first introduce our CoBot service robots and their novel localization and symbiotic autonomy, which enable them to consistently move in our buildings, now for more than 1,000km. I will then introduce multiple human-AI interaction contributions, and detail the use and planning for language-based complex commands, and robot learning from instruction and correction. I will then present the robot explanation generation to reply to language-based requests about their autonomous experience. The work reported is joint with my students and collaborators in the CORAL research group.

Speaker Bio: Manuela M. Veloso is the Herbert A. Simon University Professor in the School of Computer Science at Carnegie Mellon University. She is the Head of the Machine Learning Department, with joint appointments in the Computer Science Department, in the Robotics Institute, and in the Electrical and Computer Engineering Department. She researches in Artificial Intelligence with focus in robotics, machine learning, and multiagent systems. She founded and directs the CORAL research laboratory, for the study of autonomous agents that Collaborate, Observe, Reason, Act, and Learn, www.cs.cmu.edu/~coral. Professor Veloso is ACM Fellow, IEEE Fellow, AAAS Fellow, AAI Fellow, Einstein Chair Professor, the co-founder and past President of RoboCup, and past President of AAI. Professor Veloso and her students research with a variety of autonomous robots, including mobile service robots and soccer robots. See www.cs.cmu.edu/~mmv for further information, including publications.

Plenary Talk

Comanoids: Collaborative Humanoid Robots

Abderrahmane Kheddar

CNRS - Centre National de la Recherche Scientifique and University of Montpellier
LIRMM, France; CNRS-AIST Joint Robotic Laboratory, Tsukuba, Japan.



Wednesday, August 30, 2017

14:00-14:45 Belém I + Belém II

Abstract: Humanoid robots can serve as human partners in various close-contact situations. As real-use application perspectives appeared recently (domotics, large-scale manufacturing...), humanoids have great potential to be exploited as sophisticated robotic systems. Their shape imparts them interesting properties in terms of integration, interaction with humans, empathy, and embodiment. The underlying background of my talk is haptic contacts, and means in exploiting it as a fundamental source in planning joint actions and control in order to achieve joint physical tasks with humans. Comanoids must operate under similar constraints as cobots, but they have peculiarities that need to be developed. For example, walking under physical interaction constraints, falling safely, etc. I specifically discuss some concepts of equal responsibility sharing through role switching and programming of proactive behaviors that are exemplified through human-humanoid joint object transportation tasks; I will also introduce new means of interaction using mind-controlled humanoid embodiment for self-manipulation.

Speaker Bio: Prof. Abderrahmane Kheddar received the BS in Computer Science degree from the Institut National d'Informatique (ESI), Algiers, the MSc and PhD degree in robotics, both from the University of Pierre et Marie Curie, Paris. He is presently Directeur de Recherche at CNRS; Codirector of the CNRS-AIST Joint Robotic Laboratory, Tsukuba, Japan; leading the Interactive Digital Humans team at CNRS-University of Montpellier LIRMM, France and Adjunct Professor at the Beijing Institute of Technology, China. His research interests include haptics, humanoids and thought-based control using brain machine interfaces. He is a founding member of the IEEE/RAS chapter on haptics. He is presently Editor of the IEEE Transactions on Robotics, senior editor in the Journal of Intelligent and Robotic Systems, and associate editor of the International Journal of Social Robotics; he is among the founders of the IEEE Transactions on Haptics he served in its editorial board from 2007 to 2010 and served as an associate editor in the MIT Press Presence journal. He is an IEEE Senior Member, Member of the steering committee of the IEEE Brain Initiative, Titular member of the National Academy of Technology of France, and Knight of the National Order of the Merit.

PLENARY TALKS

Plenary Talk

Human-Human Collaboration for Better Human-Robot Collaboration

Bram Vanderborght

Vrije Universiteit Brussel, Belgium



Wednesday, August 30, 2017

14:45-15:30 Belém I + Belém II

Abstract: Human-robot collaboration has great potential to face societal challenges (as ageing population, need for better and healthier work) and create new economic markets. However there are still several open research questions and technological developments required to make this happen. Several examples will be given how novel compliant actuator technologies are implemented in applications for cognitive and physical human-robot interaction for health and manufacturing. In these research projects is extensively collaborated with not only other technical fields as engineering and computer sciences, but also life and social sciences. At the VUB we started the Brussels Human Robotics Research Center, BruBotics, which is a joint initiative of 8 research groups of the Vrije Universiteit Brussel (VUB) sharing a common vision: improve our quality of life through Human centered Robotics.

Speaker Bio: Prof. dr. ir. Bram Vanderborght obtained his PhD from the Vrije Universiteit Brussel in 2007. He performed research on the humanoid robot HRP-2 at the Joint Japanese/French Robotics Laboratory (JRL) in AIST, Tsukuba (Japan). From October 2007-April 2010 he worked as post-doc researcher at the Italian Institute of Technology in Genova (Italy). Since October 2009 he is appointed as professor at the VUB. He has an ERC starting grant on SPEA actuation concept. He is member of the Young Academy of the Royal Flemish Academy of Belgium for Science and the Arts. He is in the Board of Directors of the science museum Technopolis. He is active in several EU and national projects, the lab is member of Flanders Make and www.brubotics.eu, the Brussels Human Robotics Research Center. His research interests include cognitive and physical human robot interaction with core technology of using variable impedance actuators in applications for health and manufacturing like humanoids, exoskeletons, prostheses, social robots and cobots. He is the current EiC of the IEEE Robotics and Automation Magazine.

ROUND TABLE

Final Round Table

New challenges for human-robot interaction, communication and co-operation in the Industry 4.0 and beyond

This Round Table will gather a selected group of prominent scholars and experts from academia, industry and governmental agencies to open a window on the real challenges that our Society is facing in these years: new generations of interactive and co-operative robots are being developed for a variety of application domains. Current jobs are expected to be dramatically re-engineered, new jobs will be enabled, novel robot-based products and services are forecasted to have a dramatic impact on the market in the next decades.

Thursday, August 31, 2017

11:00-11:45 Belém I + Belém II

Moderator: Eugenio Guglielmelli, Prorector for Research, Campus Bio-Medico University of Rome, Italy, RO-MAN 2017 Program Chair

Speakers (in alphabetical order):

- Dominik Boesl, KUKA Vice President Consumer Driven Robotics and Senior Corporate Innovation Manager, Germany and IEEE Robotics & Automation Society Vice President-Elect for Industrial Activities
- Maria Chiara Carrozza, Scuola Superiore Sant'Anna Pisa, Italy, Member of the National Parliament, Chamber of Deputies, Foreign and European Affairs Committee, former Italian Minister for Education and Research
- Dong-Soo Kwon, Director of the Human-Robot Interaction Research Center at KAIST, Director of the Center for Future Medical Robotics and President of Robot Convergence Forum in Republic of Korea
- Reid Simmons, Carnegie Mellon University and Program Director of the National Robotics Initiative 2.0: Ubiquitous Collaborative Robots (NRI-2.0) at the National Science Foundation, USA
- Yukihisa Yonemochi, Division Director of Project Management Office, Honda Research Institute, Japan

WORKSHOPS AND TUTORIALS

Workshops and tutorials will be held before and after the main conference, on Monday the 28th of August and on Friday the 1st of September. RO-MAN 2017 will be hosting the following workshop and tutorial events:

Monday, August 28, 2017

MWT1: Enriching Robots with Ontological-Cognitive Knowledge (E-ROCK)

MW1: 2nd Workshop on Behavior Adaptation, Interaction and Learning for Assistive Robotics (BAILAR 2017)

MW2: Towards Intelligent Social Robots: Social Cognitive Systems in Smart Environments

MW3: EMSHRI 2017: 3rd Workshop on Evaluation Methods Standardization for Human-Robot Interaction

MW4: Workshop on Social Interaction and Multimodal Expression for Socially Intelligent Robots (WS-SIME)

MW5: Workshop on Robot Therapy with Seal Robot, PARO

MW6: 3rd Workshop on Groups in Human-Robot Interaction

MW7: Rethinking Robotics for the Robot Companion of the future: the RoboCom++ Fet-Flagship-Proof-of-Concept Project

Friday, September 1, 2017

FW1: Autonomous Robot Ontology Workshop (AROW 2017)

FW2: Agent Transparency for Human-Autonomy Teaming Effectiveness

FW3: CARobots: Automated Driving Systems as Robots on Four Wheels

FW4*: HRI for Service Robots in RoboCup@Home

FW5: User Experience and Communication in Interactive Robotic Systems: Ideas, Experiences and Case Studies

FW6: Human-Robot Collaboration for an improved Quality of Work - Scientific Knowledge, Challenges and ISO-Standards

FW7: NISR-TG@RO-MAN2017, Workshop of the Natural Interaction with Social Robots Topic

FW8: The Mutual Shaping of Human-Robot Interaction

FW9**: ARMADA'17: Artificial Perception, Machine Learning and Datasets for Human-Robot Interaction

FW10: The Barriers of Social Robotics take-up by Society

* FW4 is on Friday in the afternoon and is also identified as FWA5.

** FW9 is on Friday in the afternoon and is also identified as FWA3.

Monday, August 28, 2017

MWT1: Half-day, morning, Room: Ajuda III

**Tutorial on
Enriching Robots with Ontological-Cognitive Knowledge (E-ROCK)**

Tutorial website: <http://www.loa.istc.cnr.it/tutorials/E-ROCK2017/home.html>

Abstract: The tutorial aims to introduce the audience to the use of ontology for modeling the common-sense knowledge needed by a robotic agent to understand the environment and to interact with it. The goal is to study how to organize the robot's information system with knowledge of the world captured from the human perspective. This approach makes possible to develop human-robot interactions on the basis of a shared common-sense/cognitive understanding of the actual situation. We introduce and discuss the notions and relationships that are needed to "understand" a generic scenario and also show how to structure an ontology to organize such knowledge. In particular, we will focus on how to understand and model engineering functions, actions, contexts and environments.

Organizers:

Stefano Borgo, National Research Council, Italy (stefano.borgo@cnr.it)

Monday, August 28, 2017

MW1: Full-day, Room: Ajuda I

**2nd Workshop on
Behavior Adaptation, Interaction and Learning for Assistive Robotics (BAILAR 2017)**

Workshop website: <http://www.cogrobotics.unina.it/roman/index.php>

Abstract: With robots getting out of the cages, Human-Robot Interaction applications effectiveness has not only to rely on the skills of trained users, but also on the ability of the robot to adapt to the users' behavior and needs as well. In particular, the development of personal robots, as assistive technological tools, challenges researchers to develop socially intelligent and adaptive robots that can collaborate with people. Personal robots are expected to incrementally learn user preferences and to modify and adapt their behaviors accordingly. Indeed, for improved and natural human-robot cooperation, human users will learn how to interact with the robot but, at the time, the robotic systems should adapt to the users. This adaptation requires learning a model of human behavior and integrating this model into the decision-making algorithm of the robot. Creating robotic systems capable of correctly model and recognize the human behavior and of adapting their behavior to the user is a very critical task, especially in the domain of assistive robotics and when working with vulnerable user populations.

Organizers:

Silvia Rossi, University of Naples Federico II, Italy (silrossi@unina.it)

Maria Carla Staffa, University of Naples Parthenope, Italy (mariacarla.staffa@unina.it)

Bruno Siciliano, University of Naples Federico II, Italy (siciliano@unina.it)

Monday, August 28, 2017

MW2: Full-day, Room: Belém II

**Workshop on
Towards Intelligent Social Robots: Social Cognitive Systems in Smart Environments**

Workshop website: <http://intelligent-social-robots-ws.com/>

Abstract: A "smart" environment represents the concept of the environment that incorporates intelligent systems and appliances (e.g., smart home, smart factory, smart city, etc.) employing heterogeneous devices, such as: sensors, actuators, cameras, networks, and screens. Within such a smart environment, robots can take on an important mediating role between human users and the environment if high-level cognitive functions and computational intelligence are employed to handle the uncertainty of the complex environment so as to act appropriately within different contexts of interaction. Using robots in smart environments opens the door to several socio-cognitive applications, such as: reducing cognitive load for individuals interacting with a smart environment, assisting the elderly and people with cognitive disabilities in mobility and daily tasks (which requires robots to learn the multimodal characteristics of human behavior and to spatially

perceive the environment containing other smart objects so as to decide the best way to employ/manipulate them in order to successfully perform tasks), and developing a cloud-connected robot system to incrementally share knowledge between robots in different smart environments about the behavioral characteristics of human users in order to interact with them adaptively. To meet the requirements of these target applications, robots need to be able to learn how to use the capabilities of their smart environments so as to best address the needs of the human co-inhabitants. This workshop aims to shed light on the intersection between cognitive science, artificial intelligence, and robotics research both from the theoretical and technical perspectives covering basic research and applications. Recent advances and possible avenues for future research in the field of “smart” robotics are principal topics of discussion during the workshop.

Organizers:

Amir Aly, Ritsumeikan University, Japan (amir.aly@em.ci.ritsumei.ac.jp)

Sascha Griffiths, University of Hamburg, Germany (griffiths@informatik.uni-hamburg.de)

Verena Nitsch, University of Bundeswehr Munchen, Germany (verena.nitsch@unibw.de)

Tadahiro Taniguchi, Ritsumeikan University, Japan (taniguchi@ci.ritsumei.ac.jp)

Stefan Wermter, University of Hamburg, Germany (wermter@informatik.uni-hamburg.de)

Adriana Tapus, ENSTA ParisTech, France (adriana.tapus@ensta-paristech.fr)

Monday, August 28, 2017

MW3: Full-day, Room: Alter Real

3rd Workshop on

Evaluation Methods Standardization for Human-Robot Interaction (EMSHRI 2017)

Workshop website: <https://sites.google.com/view/emshri2017/>

Abstract: Social robots can have several roles such as home care robots (e.g. for seniors), mediators (e.g. for persons with autism spectrum disorders), and companions (e.g. for children alone at home). When a new application/behavior is created on a robot, researchers need to validate it. Obviously, they need to validate technical aspects: has the robot correctly executed its tasks, has it correctly moved its actuators, etc. Nevertheless, they also need to validate psychological aspects. Indeed, literature shows that the interaction between a robot and a human is complex. Robots, with their presence, and their capabilities to act on our environment, influence people. And literature also shows that humans have a tendency to anthropomorphize robots, and can reject a robot (for example if the robot does not respect particular social norms). Evaluating an application on a robot is complex, because the need to understand how humans experience the interaction is not easily met with our current methodologies. Some common objectives in HRI are to “maximize” well-being, to build robots which are acceptable, to build robots which can efficiently help people. We need to understand the relationship between robots and humans, for example studying which social skills are important, what is the impact of robots, which roles the robot can and cannot fulfill and so on. To learn about the robots and about the interaction, we need to study humans when interacting with robots. People who create robot applications are typically computer scientists or roboticists. They often are not experts in evaluating human-robot interactions and their effects. As such input from psychologists, ethologists, sociologists, philosophers, anthropologists, ergonomists (not exhaustive list), who are specialists in analyzing human behaviors and attitudes, is invaluable. These disciplines use different methodologies, but all are to a large extent readily available for Human-Robot Interaction studies. For example, Human-Robot Interactions are mainly evaluated in controlled environments, such as laboratory settings. Even if these types of evaluations bring knowledge, they do not help with evaluating Human-Robot Interactions in natural contexts. We also notice that the existing literature shows articles presenting studies performed without specialists, which may contain some methodological errors or biases. Therefore, we believe it is necessary to standardize Human-Robot Interaction evaluation methods.

Organizers:

Céline Jost, University Paris 8, France (celine.jost@univ-paris8.fr)

Tony Belpaeme, University of Plymouth, United Kingdom (tony.belpaeme@plymouth.ac.uk)

Cindy Bethel, Mississippi State University, MS, USA (cbethel@cse.msstate.edu)

Dimitrios Chrysostomou, Aalborg University, Denmark (dimim@make.aau.dk)

Nigel Crook, Oxford Brookes University, UK (nigel.crook@brookes.ac.uk)

Marine Grandgeorge, University of Rennes, France (marine.grandgeorge@univ-rennes1.fr)

Brigitte Le-Pévédic, Université of Bretagne-Sud (brigitte.le-pevedic@univ-ubs.fr)
Nicole Mirnig, University of Salzburg, Austria (nicole.mirnig@sbg.ac.at)

Monday, August 28, 2017

MW4: Full-day, Room: Belém I

**Workshop on
Social Interaction and Multimodal Expression for Socially Intelligent Robots (WS-SIME)**

Workshop website: <http://ws-sime.com/>

Abstract: The aim of this workshop is to present rigorous scientific advances on social interaction and multimodal expression for socially intelligent robots, address current challenges in this area, and to set a research agenda to foster interdisciplinary collaboration between researchers on the domain. This workshop will bring together a multidisciplinary audience interested in the study of multimodal human-human and human-robot interactions to address challenges in these areas, and elaborate on novel ways to advance research in the field, based on theories of human communication and empirical findings validated human-robot interaction studies. The analysis of human-human interactions is of particular importance to understand how humans send and receive social signals multimodally, through both parallel and sequential use of multiple modalities (e.g., eye gaze, touch, vocal, body, and facial expressions. Results achieved by researchers studying human-robot interactions offers researchers the opportunity to understand how uninformed interaction partners perceive the multimodal communication skills developed for social robots (e.g., children, elderly) and how they influence the interaction process (e.g., regarding usability and acceptance).

Organizers:

Christiana Tsiourti, University of Geneva, Switzerland (christiana.tsiourti@unige.ch)
Jorge Dias, Khalifa University, Abu Dhabi (jorge.dias@kustar.ac.ae)
Astrid Weiss, Vienna University of Technology, Austria (astrid.weiss@tuwien.ac.at)
Sten Hanke, Austrian University of Technology, Austria (sten.hanke@ait.ac.at)
Julian Angel-Fernandez, Vienna University of Technology, Austria (angel@acin.tuwien.ac.at)
Luis Santos, University of Coimbra, Portugal (luis@isr.uc.pt)

Monday, August 28, 2017

MW5: Full-day, Room: Paso

**Workshop on
Robot Therapy with Seal Robot PARO**

Workshop website: http://www.comp.sd.tmu.ac.jp/wada-lab/roman17_ws/

Abstract: Recently, robot therapy — mental health care through interaction with robots — has attracted many researchers. In particular, the therapeutic seal robot named PARO, which was developed by AIST, is widely used in more than 30 countries. PARO is a neurological therapeutic medical device approved by the US Food and Drug Administration (FDA). This workshop introduces how PARO is evaluated and used clinically as non-pharmacological therapy for various patients from children to elderly, and its social, psychological and physiological effects. In addition, new application of PARO to “Space” will be introduced. PARO may be a companion for astronauts in the mission to Mars. Then, participants will discuss the future of robot therapy. Intended audiences are robotics engineers, psychologists, sociologists, medical doctors, nurses, caregivers, therapists, and students who are interested in HRI research.

Organizers:

Kazuyoshi Wada, Tokyo Metropolitan University, Japan (k_wada@tmu.ac.jp)
Takanori Shibata, AIST, Japan (shibata-takanori@aist.go.jp)

Monday, August 28, 2017

MW6: Full-day, Room: Lusitano II

**3rd Workshop on
Groups in Human-Robot Interaction**

Workshop website: http://www.comp.sd.tmu.ac.jp/wada-lab/roman17_ws/

Abstract: The objectives of this workshop are to:

- Create a forum to brainstorm and discuss aspects of intergroup interaction, teamwork, and multi-agent systems that are particularly relevant in HRI.
- Provide an opportunity for authors to receive detailed feedback on works in progress that relate to groups in HRI.
- Brainstorm critical directions to take research and robot design in group HRI.
- Share knowledge and ideas of how to build and program robots for intergroup interaction.
- Encourage discussion about questions such as, “when are robots considered a group or grouped together,” “are robots, by definition of not being human, an out-group to humans?” “how to coordinate robots (e.g., by programming)”.

Organizers:

Marlena R. Fraune, Indiana University, IN, USA (mfraune@indiana.edu)

Friederike Eyssel, University of Bielefeld, Germany (feysel@cit-ec.uni-bielefeld.de)

Malte Jung, Cornell University, NY, USA (mfj28@cornell.edu)

Selma Sabanovic, Indiana University, IN, USA (selmas@indiana.edu)

Monday, August 28, 2017

MW7: Full-day, Room: Ajuda II

Workshop on

Rethinking Robotics for the Robot Companion of the Future: the RoboCom++ Fet-Flagship-Proof-of-Concept Project

Workshop website: <http://robocomplusplus.eu/workshopro-man-2017/>

Abstract: Europe is facing major problems and a number of challenges threatening the future quality of life and prosperity of EU citizens. Robots can be a solution to some of these challenges. Robots based on the current technological and scientific paradigm, although successful, encounter serious problems to perform daily life activities and complex tasks in real-world poorly structured environments. In fact, in the mechatronic paradigm adopted in current robots system complexity increases and robustness decreases more than linearly when complexity in the desired behaviors and application environments increases. The main objective of this workshop is to offer new insights on the next generations of Robot Companions for citizens, capable of overcoming the inherent limitations of current robots. It aims at identifying new design paradigms, grounded on Nature principles in order to develop the Robots of the future, which will interact and co-operate with humans in disruptively new ways.

Organizers:

Paolo Dario, Scuola Superiore Sant’Anna, Italy (paolo.dario@sssup.it)

Dario Floreano, EPFL, Switzerland (dario.floreano@epfl.ch)

Philippe Sourères, CNRS-LAAS, France (soueres@laas.fr)

Barbara Mazzolai, Istituto Italiano di Tecnologia, Italy (barbara.mazzolai@iit.it)

Cecilia Laschi, Scuola Superiore Sant’Anna, Italy (cecilia.laschi@santannapisa.it)

Fabio Bonsignorio, Scuola Superiore Sant’Anna, Italy (fabio.bonsignorio@santannapisa.it)

Stefano Mazzoleni, Scuola Superiore Sant’Anna, Italy (stefano.mazzoleni@santannapisa.it)

Clementina Cruceli, Scuola Superiore Sant’Anna, Italy (clementina.cruceli@santannapisa.it)

Friday, September 1, 2017

FW1: Half-day, morning, Room: Paso

Workshop on

Autonomous Robot Ontology (AROW 2017)

Workshop website: <http://robotica.ipcb.pt/AROW2017/doku.php>

Abstract: The IEEE-RAS Autonomous Robotics (AuR) study group (<http://www.ieee-ras.org/industry-government/standards/autonomous-robotics-group>) presents the AROW 2017 workshop, to discuss the requirements and development of autonomous robot ontology in perspective of Robot and Human Interactive Communications. Future autonomous systems need to work in teams and communicate with humans and

other robots such as unmanned vehicles to share information and coordinate activities. In particular, there is an increasing demand from government agencies and the private sector alike to use Unmanned Aerial Vehicles (UAVs), Unmanned Ground Vehicles (UGVs), Unmanned Surface Vehicles (USVs), and Autonomous Underwater Vehicles (AUVs) for tasks including homeland security, reconnaissance, search and rescue, surveillance, data collection, and urban planning. A standard ontology in Autonomous Robotics is the right tool that provides the underlying semantics of the vocabulary employed in communications and interactions between heterogeneous autonomous systems.

The workshop will provide thus the opportunity for the AuR members and other participants to evaluate the work done so far and to further share knowledge about the different R&A domains (e.g. aerial, ground, surface, underwater, and space robots) in order to identify new concepts and axioms as well as to define appropriate relations between these concepts and their properties to facilitate interactions between humans and autonomous robots. The advances of Robotics Systems around the globe show a very promising future where robots and humans will share the same environment as partners. Robots might work in factories, malls, and airports. In all cases, both human and robot should communicate to each other to exchange information. An effective way of achieving this goal is to standardize terminology in the Robotics and Automation (R&A) domain, as it has been done in the past in other domains. We propose to discuss current work towards a standard for autonomous robots that specifies domain concepts and relationships as ontology. The proposed workshop will serve the following sectors: Public sector using autonomous robots to deliver automated services, such as police and emergency responders; Health service providers; Transformation industry; Mining and construction industry; Oil and gas industry. As such the organizers expect a broad spectrum of participants, both from academia and industry, interested in advancing the interaction between robots and humans using a standardized and formal terminology. Amongst them, the members of the IEEE-RAS Autonomous Robotics (AuR) study group.

Organizers:

Paulo J.S. Gonçalves, Instituto Politecnico de Castelo Branco, Portugal (paulo.goncalves@ipcb.pt)

Sandro Rama Fiorini, University Paris-Est Créteil, France (sandro.fiorini@u-pec.fr)

Howard Li, University of New Brunswick, Canada (howard@unb.ca)

Joanna Olszewska, University of Gloucestershire, United Kingdom (Joanna.olszewska@ieee.org)

Abdelghani Chibani, University Paris-Est Créteil, France (abdelghani.chibani@u-pec.fr)

Friday, September 1, 2017

FW2: Full-day, Room: Lusitano II

Workshop on

Agent Transparency for Human-Autonomy Teaming Effectiveness

Workshop website: <https://sites.google.com/view/roman17transparencywkp>

Abstract: As machine agents become more sophisticated and independent, it is critical for their human counterparts to understand their behaviors, perceived intent, the reasoning process behind those behaviors, and the expected outcomes to properly calibrate their trust in the systems and make appropriate decisions. Indeed, past studies have shown that human operators sometimes question the accuracy and effectiveness of agents' actions due to the operators' difficulties understanding the state/status of the agent and the rationales behind the behaviors. These limitations can be substantial impediments to overall system and task performance. The aim of this workshop is to review the state-of-the-art of research on agent transparency as well as identify research gaps and potential ways forward. The intended audience for this workshop is those who work on human-agent communications/teaming.

Organizers:

Jessie Y.C. Chen, US Army Research Laboratory, USA (jessie.chen@us.army.mil)

Joseph B. Lyons, US Air Force Research Laboratory, USA (joseph.lyons.6@us.af.mil)

Friday, September 1, 2017

FW3: Half-day, morning, Room: Ajuda III

Workshop on

CARobots: Automated Driving Systems as Robots on Four Wheels

Workshop website: <http://www.andreasriener.com/RO-MAN17CARobots/>

Abstract: We argue that automated driving systems (ADSs) are robots on four wheels and the design of such vehicles is similar as the design of "traditional" robots. Questions, such as:

- How to design ADSs that evokes trust in its drivers?
- How to avoid overtrust?
- How should ethics be programmed in an ADS?

are closely related to similar questions asked in the domain of industrial robots or robots for human assistance. Then again, solutions of how to hand-over the control from an ADS to the driver and vice versa is interesting from human-robot interaction perspective. In this workshop we bring together researchers, designers, and practitioners in the field of ADS design and human-robot interaction. The aim of the workshop is to bridge the two communities by positioning paper presentations and group discussions.

Organizers:

Andreas Riener, University of Applied Sciences, Ingolstadt, Germany (andreas.riener@thi.de)
Alexander Meschtscherjakov, University of Salzburg, Austria (alexander.meschtscherjakov@sbg.ac.at)
Alexander Mirnig, University of Salzburg, Austria (alexander.mirnig@sbg.ac.at)
Manuel Giuliani, University of the West of England, United Kingdom (manuel.giuliani@brl.ac.uk)
Manfred Tscheligi, University of Salzburg, Austria (manfred.tscheligi@sbg.ac.at)
Myoungsoon Jeon, Michigan Technological University, MI, USA (mjeon@mtu.edu)
Zhi Zheng, Michigan Technological University, MI, USA (hizheng@mtu.edu)
Chunga Hyuk Park, The George Washington University, DC, USA (chpark@gwu.edu)

Friday, September 1, 2017

FW4 (FWA5): Half-day, afternoon, Room: Alter Real

**Workshop on
HRI For Service Robots in RoboCup@Home**

Workshop website: <http://www.diag.uniroma1.it/~labrococo/hri-for-service-robots/>

Abstract: One of the effective ways to promote science and engineering research is to set a challenging long term goal. RoboCup is an internationally renowned competition to promote robotics and AI research. RoboCup was initially set and continues to offer a publicly appealing, but formidable challenge, namely robot soccer. RoboCup introduced a novel competition framework to enable for a seamless flow of the innovation from the soccer grand challenge to a variety of robotic applications, that can have a positive impact on our society, including creating competitions for young students, RoboCupJunior, in service robots, RoboCup@Home, rescue robotics, RoboCupRescue, and in logitistics, RoboCup@Work. We have create an IEEE Technical Committee on RoboCup, with a goal to promote and stimulate technical discussions arising from RoboCup challenges inside the robotic scientific community, through workshops and other dedicated initiatives. This workshop targets the specific topic of service robots, as in RoboCup@Home. The workshop is especially timely, as RoboCup@Home has just launched the standard platform league by selecting two platforms, namely the Softbank Pepper and the HR Toyota Robots. The adoption of standard platforms can be beneficial in several respects. On one hand it will make the competition framework more accessible to the researchers in HRI as the standard platform allows to focus on the HRI development, by exploiting exhaustive solutions for the basic functions. On the other hand, the use of a standard platform allows for a more specialized setting for benchmarking and comparison of the results of experiments aiming at assessing manifold design choices in HRI. In this respect, the workshop will also provide a forum to discuss the approach to benchmarking in other competitions, in particular the European Robotics League on Service Robotics.

Organizers:

Daniele Nardi, Sapienza University of Rome, Italy (nardi@dis.uniroma1.it)
Minoru Asada, Osaka University, Japan (asada@ams.eng.osaka-u.ac.jp)
Daniel D. Lee, University of Pennsylvania, PA, USA (ddlee@seas.upenn.edu)
Manuela Veloso, Carnegie Mellon University, PA, USA (mmv@cs.cmu.edu)
Pedro Lima, Instituto Superior Técnico, Lisbon, Portugal (pal@isr.tecnico.ulisboa.pt)

Workshop on User Experience and Communication in Interactive Robotic Systems: Ideas, Experiences and Case Studies

Workshop website: http://workshops.acin.tuwien.ac.at/ro-man_2017/

Abstract: The user experience when interacting with a robotic system can vary largely depending on how well the user understands the system. It is very common for researchers, engineers and developers of the system to obtain better interaction results than final users with different technological backgrounds or cognitive abilities. Hence, communicating the state and intentions of a robot in a clear and effective manner is a key issue for performance evaluation and user acceptance in a large number of applications. The user should be taken into account during all the design and development processes. The goal of this Workshop is that novel ideas, experiences and case studies are shared and discussed so that awareness about these topics is raised and the community can better address this kind of challenges.

The Workshop aims at bringing together researchers and practitioners who have gained insight from practical experiences with interactive robotic systems and final users in different ways and people who are involved in either developing or evaluating such systems.

Organizers:

Paloma de la Puente, Polytecnic University of Madrid, Spain (paloma.delapuate@upm.es)

Alberto Brunete, Polytecnic University of Madrid, Spain (alberto.brunete@upm.es)

Marcus Vincze, Technical University of Vienna, Austria (vincze@acin.tuwien.ac.at)

Workshop on Human-Robot Collaboration for an Improved Quality of Work – Scientific Knowledge, Challenges and ISO Standards

Workshop website: <http://www.botfellows.de/de/wissenstransfer/workshop-ro-man-2017/>

Abstract: The main objective of the proposed workshop is “how to improve the quality of human’s life using robots”. The workshop will focus on the most stressed hours in the daily-life of the human. These are during work and especially in an industrial environment, where humans perform in various exhausting activities. A new generation of robots, which owns proprieties of intelligence, cognition and autonomy can assist the human massively. Otherwise there are only few applications integrated so far – ISO standard, safety regulation, reliability, precisely and various industrial requirements are still massive barriers for the industry. The main focus of this workshop is to discuss all proposed papers together with industrial experts and to help the author to generate new projects from the proposed ideas. The organizers and keynote speakers have a high expertise with industrial partners and with all challenges addressing the various aspects of interaction between human and industrial robots.

Organizers:

Mohamad Bdiwi, Fraunhofer IWU, Germany (mohamad.bdiwi@iwu.fraunhofer.de)

Kathleen Delang, Fraunhofer IWU, Germany (kathleen.delang@iwu.fraunhofer.de)

Stefania Pellegrinelli, National Research Council, Italy (stefania.pellegrinelli@itia.cnr.it)

Andreas Pichler, PROFACTOR GmbH, Austria (andreas.pichler@profactor.at)

Andrea Orlandini, National Research Council, Italy (andrea.orlandini@istc.cnr.it)

Niki Kousi, University of Patras, Greece (niki.kousi@lms.mech.upatras.gr)

Workshop on Natural Interaction with Social Robots Topic Group of euRobotics (NISR-TG)

Workshop website: <http://nistr-tg-2017.isir.upmc.fr/>

Abstract: NISR-TG (Natural Interaction with Social Robots Topic Group) is a Topic Group within the euRobotics AISBL. "Topic Groups" are community-driven instruments that aim to coordinate the activities in specific sub-domains of robotics. Among the significant actions are the contributions to H2020 Strategic Research Agenda (SRA) and Multi-Annual Roadmap (MAR). Topic Groups play a major role in contributing to roadmaps and project calls. At the core of the Natural Interaction with Social Robots Topic Group (NISR-TG) stands the detailed investigation of the social and affective interaction between people and social robots. Another central aspect concerns the mechanisms that allow robots to coordinate their behavior with other robots and with people and to use verbal and non-verbal means of communication to facilitate effective and 'natural' collaboration and cooperation. Therefore, the goal of the NISR-TG is to provide robot technologies that ease and enhance communication with people, objects and with other robots. In order to achieve these objectives, the NISR-TG will adopt an inherently multidisciplinary approach whereby considerations of the evolution and development of social skills in humans and non-human animals play an important role. Specifically, we propose that future robotic technology needs to close the loop between multimodal perception (understanding social agents such as humans in their environment) and robot actions, not only in short term exchanges but also in long-term interactions toward a society in which robots contribute to human assistance, quality of life, dignity and well-being. This full-day workshop aims at (i) introducing the NISR-TG activities to the human-robot interaction community, (ii) present recent advances in the research domain, (iii) gather researchers and students to discuss and prepare a roadmap that will be then shared with euRobotics and will be disseminated widely to the research community. The workshop will encourage student contributions through poster submissions and participation to the panel discussion

Organizers:

Mohamed Chetuani, University Pierre and Marie Curie, France (mohamed.chetuani@upmc.fr)

Vicky Charisi, University of Twente, The Netherlands (v.charisi@utwente.nl)

Vanessa Evers, University of Twente, The Netherlands (v.evers@utwente.nl)

Workshop on The Mutual Shaping of Human-Robot Interaction

Workshop website: <http://mutualshapinghri.com/>

Abstract: The aim of this workshop is to inform the robotics community and its many stakeholders about lessons learned so far about the mutual shaping of robots and society. We will bring together researchers and practitioners from various backgrounds to share their knowledge and experiences. We will focus on how the social factors can lead to use and non-use of robots, and how robot design factors affect the social contexts in which they are employed. Until now, there have been few scientific venues that support knowledge exchange on the topic of mutual shaping of robots and society that go beyond the functional perspective on potential effects of robots on society. We would like to use this workshop to create a roadmap to interdisciplinary research and knowledge exchange that can identify lessons learned and guide further progress within the community by providing analysis of research goals.

Organizers:

Somaya Ben Allouch, Saxion University of Applied Science, The Netherlands (s.benallouch@utwente.nl)

Maartje, de Graaf, Brown University, RI, USA (maartje_de_graaf@brown.edu)

Selma Sabanovic, Indiana University, IN, USA (selmas@indiana.edu)

**Workshop on
Artificial Perception, Machine Learning and Datasets for Human-Robot Interaction (ARMADA '17)****Workshop website:** <https://sites.google.com/site/roman17armada/>

Abstract: Robotics is increasingly moving towards the research and development of technologies that allow the introduction of robots in our daily life. The optimal robot assistant should share a human environment and be able to cope with human presence and interact in a very friendly way. To create such applications a number of problems need to be solved, including artificial perception systems and reasoning techniques to interpret human interactions to endow robots to successfully act as assistants. Examples where intelligent robots are usually employed are: caretakers for the elderly and for disabled people, service robots, assistants in surgery and patient rehabilitation, and educational toys. The expectation of having intelligent robots lead us to think that in order for this to happen, many topics on autonomous systems must be considered. This challenge is particularly relevant to a new generation of robots, which must interact with people, and operate in human environments, dealing with uncertainties, and surrounded by many types of static and dynamic objects. The aim of this workshop is to bring together researchers to discuss current and future challenges of advanced/intelligent sensor-based perception systems and machine learning techniques for human-robot interaction and share their experience within different contexts (e.g. within socially assistive robotics).

Organizers:

Diego R. Faria, Aston University, United Kingdom (d.faria@aston.ac.uk)

Cristiano Premebida, University of Coimbra, Portugal (cpremebida@isr.uc.pt)

**Workshop on
The Barriers of Social Robotics take-up by Society****Workshop website:** <http://www.growmeup.eu/index.php/news/102-cfp-barriers/>

Abstract: The research community has been gradually pushing technologies in order to address the problems of an ageing society. In the specific case of robotics, albeit numerous projects and initiatives have been put forward, few to none have succeeded in having an actual autonomous, multi-purpose, social robot (beyond the classic “Skype on Wheels”). From a technology’s perspective, realistically the fact remains, multi-purpose robotic technologies are not yet mature enough to free roam on people’s homes, but the research community is working determinately for it. Moreover, there is the need to overcome the barriers of the suspicious human nature when it comes to robots with the slightest degree of autonomy in their decisions.

The main goal of this workshop on the challenges of social robotics take-up by society is to gather these different stakeholders on Social Robotics for Active and Healthy Ageing, and promote a discussion ranging from the most recent advances in research on machine learning algorithms and human-robot interfaces up to ethical guidelines, legislation, deployment and technology assessment. The session is expected to allow researchers with different backgrounds to share ideas closing the cycle between research, industry and end-users. The aim is to identify challenges and possible solutions that emerge when developers bring their robots to real environments.

Organizers:

Ron Chrisley, University of Sussex, United Kingdom (r.l.chrisley@sussex.ac.uk)

Sandra Passinhas, University of Coimbra, Portugal (sandrap@fd.uc.pt)

Sten Hanke, Austrian University of Technology, Austria (sten.hanke@ait.ac.at)

Luis Santos, University of Coimbra, Portugal (luis@isr.uc.pt)

RO-MAN 2017 Technical Program Monday August 28, 2017

Half Day Tutorial	Full Day WS1	Full Day WS2	Full Day WS3	Full Day WS4	Full Day WS5	Full Day WS6	Full Day WS7
09:00-12:20 MWT1 Ajuda III Enriching Robots with Ontological-Cognitive Knowledge (E-ROCK)	09:00-17:30 MW1 Ajuda I 2nd Workshop on Behavior Adaptation, Interaction and Learning for Assistive Robotics (BAILAR 2017)	09:00-17:30 MW2 Belem II Towards Intelligent Social Robots: Social Cognitive Systems in Smart Environments	09:00-17:30 MW3 Alter Real EMSHRI 2017: 3rd Workshop on Evaluation Methods Standardization for Human-Robot Interaction	09:00-17:30 MW4 Belem I Workshop on Social Interaction and Multimodal Expression for Socially Intelligent Robots (WS-SIME)	09:00-17:30 MW5 Paso Workshop on Robot Therapy with Seal Robot, PARO	09:00-17:30 MW6 Lusitano II 3rd Workshop on Groups in Human-Robot Interaction	09:00-17:30 MW7 Ajuda II Rethinking Robotics for the Robot Companion of the Future: The RoboCom++ Fet-Flagship-Proof-Of-Concept Project

19:30-22:00 Welcome-Reception dinner in Lusitano I and Lusitano II rooms and adjoining gardens

RO-MAN 2017 Technical Program Tuesday August 29, 2017

Track 1	Track 2	Track 3	Track 4	Track 5
09:00-09:30 Tu01 Belem I+Belem II Opening Ceremony				
09:30-10:30 TuPL1 Belem I+Belem II Human-AI Interaction in Autonomous Intelligent Service Robots - Prof. Manuela Veloso (Carnegie Mellon University, USA)				
10:30-11:00 Coffee-Break				
11:00-12:30 Tu1A Ajuda I Cognitive Interaction Design (I)	11:00-12:30 Tu1B Belem II Social Robotics (I)	11:00-12:30 Tu1C Belem I Rehabilitation and Assistive Robotics (I)	11:00-12:30 Tu1D Ajuda III Robot Companions	11:00-12:30 Tu1E Ajuda II Tele-Operated and Autonomous Robots
12:30-14:00 Lunch-Break, lunch served in Lusitano I and Lusitano II rooms				
14:00-15:30 Tu2A Ajuda I Cognitive Interaction Design (II)	14:00-15:30 Tu2B Belem II Social Robotics (II)	14:00-15:30 Tu2C Belem I Rehabilitation and Assistive Robotics (II)	14:00-15:30 Tu2D Ajuda II Linguistic Communication and Dialogue	14:00-15:30 Tu2E Ajuda III Human-Robot Collaboration and Cooperation (I)
15:30-16:00 Coffee-Break				
16:00-17:45 Tu4A Ajuda I Cultural Factors in Human-Robot Interactions	16:00-17:30 Tu3B Belem II Social Robotics (III)	16:00-17:30 Tu3C Ajuda II Non-Verbal Cues and Expressiveness	16:00-17:30 Tu3D Belem I Medical Robotics	16:00-17:30 Tu3E Ajuda III Human-Robot Collaboration and Cooperation (II)

RO-MAN 2017 Technical Program Wednesday August 30, 2017

Track 1	Track 2	Track 3	Track 4	Track 5
09:00-10:30 We1A Belem II Human-Robot Interaction (I)	09:00-10:30 We1B Ajuda II Motivations and Emotions in Robotics	09:00-10:30 We1C Ajuda III Robots in Education	09:00-10:30 We1D Belem I Creating Human-Robot Relationships (I)	09:00-10:30 We1E Ajuda I Virtual and Augmented Tele-Presence Environments
10:30-11:00 Coffee-Break				
11:00-12:30 We2A Belem II Human-Robot Interaction (II)	11:00-12:30 We2B Ajuda II Collaboration in Manufacturing Environments	11:00-12:30 We2C Ajuda III Detecting and Understanding Human Activity (I)	11:00-12:30 We2D Belem I Creating Human-Robot Relationships (II)	11:00-12:30 We2E Ajuda I Novel Interfaces and Interaction Modalities
12:30-14:00 Lunch-Break, lunch served in Lusitano I and Lusitano II rooms				
14:00-14:45 WePL2- Belem I+Belem II Comanoids: Collaborative Humanoid Robots - Prof. Abderrahmane Kheddar (CNRS - Centre National de la Recherche Scientifique and University of Montpellier LIRMM, France; CNRS-AIST Joint Robotic Laboratory, Tsukuba, Japan)				
14:45-15:30 WePL3- Belem I+Belem II Human-Human Collaboration for Better Human-Robot Collaboration - Prof. Bram Vanderborcht (Vrije Universiteit Brussel, Belgium)				
15:30-16:15 WePoster1 Ajuda I Poster Session				
16:15-17:30 We3A Belem I Human-Centered Motion Planning and Navigation (I)	16:15-17:30 We3B Ajuda II Human-Assistive Technologies in the "Real World"	16:15-17:30 We3C Ajuda III Social and Affective Robots	16:15-17:30 We3D Belem II Cloud Technologies: Empowering Robots to Connect Society	

18:30-22:00 Conference Banquet at Forte São Julião da Barra

RO-MAN 2017 Technical Program Thursday August 31, 2017

Track 1	Track 2	Track 3	Track 4	Track 5
09:00-10:30 Th1A Ajuda I Machine Learning and Adaptation	09:00-10:30 Th1B Belem I Human-Centered Motion Planning and Navigation (II)	09:00-10:30 Th1C Ajuda II Human Centered Robot Design	09:00-10:30 Th1D Belem II Ethical Issues in Human-Robot Interaction	09:00-10:30 Th1E Ajuda III Detecting and Understanding Human Activity (II)
10:30-11:00 Coffee-Break				
11:00-11:45 ThRT- Belem I+Belem II Round Table: New Challenges for Human-Robot Interaction and Co-Operation in the Industry 4.0 and Beyond				
11:45-12:45 ThClosing- Belem I+Belem II Closing and Awards Ceremony				

RO-MAN 2017 Technical Program Friday September 1, 2017

Full Day WS	Full Day WS	Full Day WS	Full Day WS	Half Day WS	Half Day WS	Half Day WS	Half Day WS
09:00-17:30 FW2 Lusitano II Agent Transparency for Human-Autonomy Teaming Effectiveness	09:00-17:30 FW7 Ajuda II NISR-TG@RO-MAN2017, Workshop of the Natural Interaction with Social Robots Topic Group of Eurobotics	09:00-17:30 FW8 Belem I The Mutual Shaping of Human-Robot Interaction	09:00-17:30 FW10 Ajuda I The Barriers of Social Robotics Take-Up by Society	09:00-12:20 FW3 Ajuda III CARobots: Automated Driving Systems As Robots on Four Wheels	09:00-12:20 FW5 Alter Real User Experience and Communication in Interactive Robotic Systems: Ideas, Experiences and Case Studies	09:00-12:20 FW1 Paso Autonomous Robot Ontology Workshop (AROW 2017)	09:00-12:20 FW6 Belem II Human-Robot Collaboration for an Improved Quality of Work - Scientific Knowledge, Challenges and ISO-Standards
				14:00-17:30 FWA3 Ajuda III FW9 ARMADA'17: Artificial Perception, Machine Learning and Datasets for Human-Robot Interaction	14:00-17:30 FWA5 Alter Real FW4 HRI for Service Robots in RoboCup@Home		

TECHNICAL PROGRAM

Technical Program for Monday August 28, 2017

MWT1	Ajuda III
Enriching Robots with Ontological-Cognitive Knowledge (E-ROCK) (Workshop or Tutorial Session)	
09:00-12:20	MWT1.1

Enriching Robots with Ontological-Cognitive Knowledge (E-ROCK).*

Borgo, Stefano (National Res. Council)

MW1	Ajuda I
2nd Workshop on Behavior Adaptation, Interaction and Learning for Assistive Robotics (BAILAR 2017) (Workshop or Tutorial Session)	
09:00-17:30	MW1.1

Behavior Adaptation, Interaction and Learning for Assistive Robotics – BAILAR.*

Rossi, Silvia (Univ. di Napoli Federico II), Staffa, Mariacarla (Univ. of Naples "Federico II"), Siciliano, Bruno (Univ. Napoli Federico II)

MW2	Belem II
Towards Intelligent Social Robots: Social Cognitive Systems in Smart Environments (Workshop or Tutorial Session)	
09:00-17:30	MW2.1

Towards Intelligent Social Robots: Social Cognitive Systems in Smart Environments.*

Aly, Amir (Ritsumeikan Univ.)

MW3	Alter Real
EMSHRI 2017: 3rd Workshop on Evaluation Methods Standardization for Human-Robot Interaction (Workshop or Tutorial Session)	
09:00-17:30	MW3.1

EMSHRI 2017: Evaluation Methods Standardization for Human-Robot Interaction.*

Jost, Céline (Paris 8 Univ.), Belpaeme, Tony (Plymouth Univ.), Bethel, Cindy L. (Mississippi State Univ.), Chrysostomou, Dimitrios (Aalborg Univ.), Crook, Nigel (Oxford Brookes Univ.), Le-Pévédic, Brigitte (Univ.), Mirmig, Nicole (Univ. of Salzburg), Grandgeorge, Marine (Univ. Rennes 1, UMR 6552, Lab. ethologie Animale & Humaine)

MW4	Belem I
Workshop on Social Interaction and Multimodal Expression for Socially Intelligent Robots (WS-SIME) (Workshop or Tutorial Session)	
09:00-17:30	MW4.1

Workshop on Social Interaction and Multimodal Expression for Socially Intelligent Robots (WS SIME).*

Tsiourti, Christiana (Univ. of Geneva), Dias, Jorge (Univ. of Coimbra), Weiss, Astrid (Vienna Univ. of Tech.), Hanke, Sten (AIT Austrian Inst. of Tech. GmbH), Angel-Fernandez, Julian (ACIN Institute of Automation and Control, Vienna Univ. of Tech.), Luis, Santos (Univ. of Coimbra)

MW5	Paso
Workshop on Robot Therapy with Seal Robot, PARO (Workshop or Tutorial Session)	
09:00-17:30	MW5.1

Workshop on Robot Therapy with Seal Robot, PARO.*

Wada, Kazuyoshi (Tokyo Metropolitan Univ.), Shibata, Takanori (AIST)

MW6	Lusitano II
3rd Workshop on Groups in Human-Robot Interaction (Workshop or Tutorial Session)	
09:00-17:30	MW6.1

Groups in Human-Robot Interaction (third Meeting).*

Fraune, Marlena (Indiana Univ.), Eyssel, Friederike (Bielefeld Univ.), Jung, Malte (Cornell Univ.), Sabanovic, Selma (Indiana Univ.)

MW7	Ajuda II
Rethinking Robotics for the Robot Companion of the Future: The RoboCom++ Fet-Flagship-Proof-Of-Concept Project (Workshop or Tutorial Session)	
09:00-17:30	MW7.1

Rethinking Robotics for the Robot Companion of the Future: The RoboCom++ Fet-Flagship-Proof-Of-Concept Project.*

Dario, Paolo (Scuola Superiore Sant'Anna), Floreano, Dario (Ec. Pol. Federal, Lausanne), Soueres, Philippe (LAAS-CNRS), Mazzolai, Barbara (Istituto Italiano di Tecnologia), Laschi, Cecilia (Scuola Superiore Sant'Anna), Bonsignorio, Fabio Paolo (Heron Robots srl and The Biorobotics Institute Scuola Superiore S. Anna), Mazzoleni, Stefano (Scuola Superiore Sant'Anna)

Technical Program for Tuesday August 29, 2017

Tu1A	Ajuda I
Cognitive Interaction Design (I) (Special Session)	

Chair: Terada, Kazunori Gifu Univ
Co-Chair: Eyssel, Friederike Bielefeld Univ
Organizer: Terada, Kazunori Gifu Univ
Organizer: Yamada, Seiji National Inst. of Informatics

11:00-11:15 Tu1A.1

Designing Robot Faces Suited to Specific Tasks That These Robots Are Good At (I), pp. 1-5.

Komatsu, Takanori (Meiji Univ), Masahiro, Kamide (Meiji Univ)

11:15-11:30 Tu1A.2

Video Conference Environment Using Representative Eye-Gaze Motion of Remote Participants (I), pp. 6-11.

Takeuchi, Yugo (Shizuoka Univ), Takahashi, Genki (NEC Facilities, Ltd. / Shizuoka Univ)

11:30-11:45 Tu1A.3

Projection Mapping of Behavioral Expressions Onto Manufactured Figures for Speech Interaction (I), pp. 12-16.

Ishihara, Yoshihisa (Shinshu Univ), Kobayashi, Kazuki (Shinshu Univ)

11:45-12:00 Tu1A.4

Investigating Effects of Light Animations on Perceptions of a Computer: Preliminary Results (I), pp. 17-22.

Song, Sichao (The Graduate Univ. for Advanced Studies (SOKENDAI)), Yamada, Seiji (National Inst. of Informatics)

12:00-12:15 Tu1A.5

Entropy-Based Eye-Tracking Analysis When a User Watches a PRVA's Recommendations (I), pp. 23-28.

Matsui, Tetsuya (National Inst. of Informatics), Yamada, Seiji (National Inst. of Informatics)

12:15-12:30 Tu1A.6

A Pilot Study Investigating Self-Disclosure by Elderly Participants in Agent-Mediated Communication (I), pp. 29-34.

Noguchi, Yohei (Univ. of Tsukuba), Tanaka, Fumihide (Univ. of Tsukuba)

Tu1B	Belem II
Social Robotics (I) (Regular Session)	
Chair: Nomura, Tatsuya	Ryukoku Univ
Co-Chair: Trovato, Gabriele	Waseda Univ
11:00-11:15	Tu1B.1
<i>Puffy – an Inflatable Robotic Companion for Pre-Schoolers</i> , pp. 35-41.	
Gelsomini, Mirko (Pol. Di Milano, MIT Media Lab), Degiorgi, Marzia (Pol. Di Milano), Garzotto, Franca (Pol. Di Milano), Leonardi, Giulia (Pol. Di Milano), Penati, Simone (Pol. Di Milano), Ramuzat, Noëlie (ENSTA Bretagne), Silvestri, Jacopo (Pol. Di Milano), Clasadonte, Francesco (Pol. Di Milano), Kinoe, Yosuke (Hosei Univ)	
11:15-11:30	Tu1B.2
<i>Would You Like to Sample? Robot Engagement in a Shopping Centre</i> , pp. 42-49.	
Tonkin, Meg (Univ. of Tech. Sydney), Vitale, Jonathan (Univ. of Tech. Sydney), Ojha, Suman (Univ. of Tech. Sydney), Williams, Mary-Anne (Univ. of Tech. Sydney), Fuller, Paul (Stockland), Judge, William (Commonwealth Bank), Wang, Xun (Univ. of Tech. Sydney)	
11:30-11:45	Tu1B.3
<i>Semantic-Based Interaction for Teaching Robot Behavior Compositions</i> , pp. 50-55.	
Paléologue, Victor (SoftBank Robotics Europe), Martin, Jocelyn (SoftBank Robotics Europe), Coninx, Alexandre (UPMC), Pandey, Amit Kumar (SoftBank Robotics), Chetouani, Mohamed (Univ. Pierre Et Marie Curie)	
11:45-12:00	Tu1B.4
<i>He Said, She Said, It Said: Effects of Robot Group Membership and Human Authority on People's Willingness to Follow Their Instructions</i> , pp. 56-61.	
Sembroski, Catherine (Indiana Univ), Fraune, Marlina (Indiana Univ), Sabanovic, Selma (Indiana Univ)	
12:00-12:15	Tu1B.5
<i>Effectiveness of Socially Assistive Robotics During Cognitive Stimulation Interventions: Impact on Caregivers</i> , pp. 62-67.	
Shukla, Jainendra (Rovira I Virgili Univ), Barreda-Ángeles, Miguel (Eurecat - Tech. Centre of Catalonia), Oliver, Joan (Inst. De Robòtica Para La Dependencia), Puig, Domenec (Rovira I Virgili Univ)	
12:15-12:30	Tu1B.6
<i>Evaluation of Experiments in Social Robotics: Insights from the MONarCH Project</i> , pp. 68-73.	
Sequeira, Joao (Inst. Superior Técnico - Inst. for Systems and Robotics)	
Tu1C	Belem I
Rehabilitation and Assistive Robotics (I) (Regular Session)	
Chair: Iáñez, Eduardo	Univ. Miguel Hernandez De Elche
Co-Chair: Filippeschi, Alessandro	Scuola Superiore Sant'Anna
11:00-11:15	Tu1C.1
<i>I See You Lying on the Ground - Can I Help You? Fast Fallen Person Detection in 3D with a Mobile Robot</i> , pp. 74-80.	
Lewandowski, Benjamin (Ilmenau Univ. of Tech), Wengefeld, Tim (Ilmenau Univ. of Tech), Schmiedel, Thomas (Ilmenau Univ. of Tech), Gross, Horst-Michael (Ilmenau Univ. of Tech)	
11:15-11:30	Tu1C.2
<i>Sit-To-Stand Assistance System Based on Using EMG to Predict Movement</i> , pp. 81-87.	
Hiyama, Takahiro (Panasonic Corp), Kato, Yusuke (Panasonic Corp), Inoue, Tsuyoshi (Panasonic Corp)	

11:30-11:45	Tu1C.3
<i>A Vibrotactile Stimulation System for Improving Postural Control and Knee Joint Proprioception in Lower-Limb Amputees</i> , pp. 88-93.	
Lauretti, Clemente (Univ. Campus Bio-Medico Di Roma), Pinzari, Giulia (Univ. Campus Bio-Medico Di Roma), Ciancio, Anna Lisa (Campus Bio-Medico Univ), DAVALLI, Angelo (INAIL Prosthesis Center), Sacchetti, Rinaldo (INAIL Prosthesis Center), Sterzi, Silvia (Univ. Campus Bio-Medico Di Roma), Guglielmelli, Eugenio (Univ. Campus Bio-Medico), Zollo, Loredana (Univ. Campus Bio-Medico)	
11:45-12:00	Tu1C.4
<i>Empirical Mode Decomposition Use in Electroencephalography Signal Analysis for Detection of Starting and Stopping Intentions During Gait Cycle</i> , pp. 94-100.	
Ortiz, Mario (Univ. Miguel Hernández), Iáñez, Eduardo (Univ. Miguel Hernandez De Elche), Rodríguez-Ugarte, Marisol (Miguel Hernandez Univ. of Elche), Azorin, Jose M. (Univ. Miguel Hernandez De Elche)	
12:00-12:15	Tu1C.5
<i>Estimating Double Support in Pathological Gaits Using an HMM-Based Analyzer for an Intelligent Robotic Walker</i> , pp. 101-106.	
Chalvatzaki, Georgia (NATIONAL Tech. Univ. OF ATHENS), Papageorgiou, Xanthi S. (National Tech. Univ. of Athens), Tzafestas, Costas S. (ICCS - Inst. of Communication and Computer Systems), Maragos, Petros (National Tech. Univ. of Athens)	
12:15-12:30	Tu1C.6
<i>Short-Range Gait Pattern Analysis for Potential Applications on Assistive Robotics</i> , pp. 107-112.	
Paulo, João (Univ. OF COIMBRA), Garrote, Luís Carlos (Inst. of Systems and Robotics), Asvadi, Alireza (Inst. of Systems and Robotics), Premebida, Cristiano (Univ. of Coimbra), Peixoto, Paulo (Univ. of Coimbra)	
Tu1D	Ajuda III
Robot Companions (Regular Session)	
Chair: Dominey, Peter Ford	INSERM Stem Cell & Brain Res. Inst
Co-Chair: Crook, Nigel	Oxford Brookes Univ
11:00-11:15	Tu1D.1
<i>NICO - Neuro-Inspired Companion: A Developmental Humanoid Robot Platform for Multimodal Interaction</i> , pp. 113-120.	
Kerzel, Matthias (Uni Hamburg), Strahl, Erik (Univ. Hamburg), Magg, Sven (Univ. of Hamburg), Navarro-Guerrero, Nicolás (Univ. of Hamburg), Heinrich, Stefan (Univ. Hamburg), Wermter, Stefan (Univ. of Hamburg)	
11:15-11:30	Tu1D.2
<i>Huggable: Impact of Embodiment on Promoting Verbal and Physical Engagement for Young Pediatric Inpatients</i> , pp. 121-126.	
Jeong, Sooyeon (MIT), Breazeal, Cynthia (MIT), Logan, Deirdre (Boston Children's Hospital), Weinstock, Peter (Boston Children's Hospital)	
11:30-11:45	Tu1D.3
<i>Improving Quality of Life with a Narrative Companion</i> , pp. 127-134.	
Dominey, Peter Ford (INSERM Stem Cell & Brain Res. Inst), Paléologue, Victor (SoftBank Robotics Europe), Pandey, Amit Kumar (SoftBank Robotics), Ventre-Dominey, Jocelyne (INSERM)	
11:45-12:00	Tu1D.4
<i>Robotic Companions in Stroke Therapy: A User Study on the Efficacy of Assistive Robotics among 30 Patients in Neurological Rehabilitation</i> , pp. 135-142.	

Meyer, Sibylle (SIBIS Inst. for Social Res. Berlin), Fricke, Christa (SIBIS Inst. for Social Res. Berlin)

12:00-12:15 Tu1D.5

Sociable Driving Agents to Maintain Driver's Attention in Automatic Driving, pp. 143-149.

Karatas, Nihan (Toyohashi Univ. of Tech), Yoshikawa, Soshi (Toyohashi Univ. of Tech), Tamura, Shintaro (Toyohashi Univ. of Tech), Otaki, Sho (Toyota Motor Corp), Funayama, Ryuji (Toyota Motor Corp), Okada, Michio (Toyohashi Univ. of Tech)

12:15-12:30 Tu1D.6

Both "Look and Feel" Matter: Essential Factors for Robotic Companionship, pp. 150-155.

FakhrHosseini, Maryam (Michigan Tech. Univ), Lettinga, Dylan (Michigan Tech. Univ), Vasey, Eric (Michigan Tech. Univ), Zheng, Zhi (Michigan Tech. Univ), Jeon, Myoungsoon (Michigan Tech. Univ), Park, Chung Hyuk (George Washington Univ), Howard, Ayanna (Georgia Inst. of Tech)

Tu1E Ajuda II
Tele-Operated and Autonomous Robots (Regular Session)

Chair: Adams, Julie Oregon State Univ

Co-Chair: Kühnlenz, Kolja Coburg Univ. of Applied Sciences and Arts

11:00-11:15 Tu1E.1

A Teleoperated Control Approach for Anthropomorphic Manipulator Using Magneto-Inertial Sensors, pp. 156-161.

Noccaro, Alessia (Univ. Campus Bio-Medico Di Roma), Cordella, Francesca (Univ. Campus Biomedico di Roma), Zollo, Loredana (Univ. Campus Bio-Medico), Di Pino, Giovanni (Univ. Campus Bio-Medico Di Roma), Guglielmelli, Eugenio (Univ. Campus Bio-Medico), Formica, Domenico (Univ. Campus Bio-Medico Di Roma)

11:15-11:30 Tu1E.2

Blame My Telepresence Robot, Joint Effect of Proxemics and Attribution on Interpersonal Attraction, pp. 162-168.

van Houwelingen-Snippe, Josca (Radboud Univ), Vroon, Jered (Univ. of Twente), Englebienne, Gwenn (Univ. of Twente), Willem Haselager, Pim (Radboud Univ. Nijmegen)

11:30-11:45 Tu1E.3

Exploring User-Defined Gestures to Control a Group of Four UAVs, pp. 169-174.

Peshkova, Ekaterina (Alpen-Adria-Univ. Klagenfurt), Hitz, Martin (Alpen-Adria-Univ. Klagenfurt)

11:45-12:00 Tu1E.4

Exploring Intuitiveness of Metaphor-Based Gestures for UAV Navigation, pp. 175-182.

Peshkova, Ekaterina (Alpen-Adria-Univ. Klagenfurt), Hitz, Martin (Alpen-Adria-Univ. Klagenfurt), Ahlström, David (Alpen-Adria-Univ. Klagenfurt), Alexandrowicz, Rainer W. (Alpen-Adria-Univ. Klagenfurt), Kopper, Alexander (Alpen-Adria-Univ. Klagenfurt)

12:00-12:15 Tu1E.5

Study Investigating the Ease of Talking Via a Robot Tele-Operated from Same or Different Rooms, pp. 183-188.

Shimaya, Jiro (Osaka Univ), Yoshikawa, Yuichiro (Osaka Univ), Ishiguro, Hiroshi (Osaka Univ)

12:15-12:30 Tu1E.6

Ontology for Autonomous Robotics, pp. 189-194.

Li, Howard (Univ. of New Brunswick), Gonçalves, Paulo (Inst. Pol. De Castelo Branco), Fiorini, Sandro (Univ. Paris-Est Creteil), Olszewska, Joanna Isabelle (Univ. of Gloucestershire, United Kingdom)

Tu2A Ajuda I
Cognitive Interaction Design (II) (Special Session)

Chair: Terada, Kazunori Gifu Univ

Co-Chair: Dias, Jorge Univ. of Coimbra

Organizer: Terada, Kazunori Gifu Univ

Organizer: Yamada, Seiji National Inst. of Informatics

14:00-14:15 Tu2A.1

Investigating How People Deal with Silence in a Human-Robot Conversation (I), pp. 195-200.

Oto, Kiyona (Keio Univ), Feng, Jianmei (Keio Univ), Imai, Michita (Keio Univ)

14:15-14:30 Tu2A.2

Agent Auto-Generation System : Interact with Your Favorite Things (I), pp. 201-206.

Sawada, Shiori (Keio Univ), Sono, Taichi (Keio Univ), Imai, Michita (Keio Univ)

14:30-14:45 Tu2A.3

A Robot Counseling System -What Kinds of Topics Do We Prefer to Disclose to Robots? (I), pp. 207-212.

Uchida, Takahisa (ATR, Osaka Univ), Takahashi, Hideyuki (Osaka Univ), Ban, Midori (Doshisha Univ), Shimaya, Jiro (Osaka Univ), Yoshikawa, Yuichiro (Osaka Univ), Ishiguro, Hiroshi (Osaka Univ)

14:45-15:00 Tu2A.4

Telepresence Robot with Behavior Synchrony: Merging the Emotions and Behaviors of Users (I), pp. 213-218.

Yonezu, Soji (Univ. of Tsukuba), Osawa, Hirotaka (Univ. of Tsukuba)

15:00-15:15 Tu2A.5

Analysis of Robot Hotel: Reconstruction of Works with Robots (I), pp. 219-223.

Osawa, Hirotaka (Univ. of Tsukuba), Ema, Arisa (The Univ. of Tokyo), Hattori, Hiromitsu (Ritsumeikan Univ), Akiya, Naonori (Yamaguchi Univ), Kanzaki, Nobotsugu (Nanzan Univ), Kubo, Akinori (Hitotsubashi Univ), Koyama, Tora (Osaka Univ), Ichise, Ryutarō (National Inst. of Informatics)

Tu2B Belem II
Social Robotics (II) (Regular Session)

Chair: Nomura, Tatsuya Ryukoku Univ

Co-Chair: Shiomi, Masahiro ATR

14:00-14:15 Tu2B.1

Stopping Distance for a Robot Approaching Two Conversing Persons, pp. 224-229.

Ruijten, Peter (Eindhoven Univ. of Tech), Cuijpers, Raymond (Eindhoven Univ. of Tech)

14:15-14:30 Tu2B.2

Security and Guidance: Two Roles for a Humanoid Robot in an Interaction Experiment, pp. 230-235.

Trovato, Gabriele (Waseda Univ), Lopez Manrique, Jose Alexander (Pontificia Univ. Católica Del Peru), Paredes, Renato (Pontificia Univ. Católica Del Perú), Cuellar, Francisco (Pontificia Univ. Católica Del Peru)

14:30-14:45 Tu2B.3

Understanding Social Interactions with Socially Assistive Robotics in Intergenerational Family Groups, pp. 236-241.

Short, Elaine Schaertl (Univ. of Southern California), Swift-Spong, Katelyn (Univ. of Southern California), Shim, Hyunju (Univ. of Southern California), Wisniewski, Kristi M. (Univ. of Southern California), Zak, Deanah Kim (Univ. of Southern California), Wu, Shinyi (Univ. of Southern California), Zelinski, Elizabeth (Univ. of Southern California), Mataric, Maja (Univ. of Southern California)

14:45-15:00 Tu2B.4

He Can Read Your Mind: Perceptions of a Character-Guessing Robot, pp. 242-247.

Henkel, Zachary (Mississippi State Univ), Bethel, Cindy L. (Mississippi State Univ), Kelly, John (Mississippi State Univ), Jones, Alexis (Mississippi State Univ), Stives, Kristen

(Mississippi State Univ), Buchanan, Zach (Mississippi State Univ), Eakin, Deborah (Mississippi State Univ), May, David C. (Mississippi State Univ), Pilkinton, Melinda (Mississippi State Univ)	
15:00-15:15	Tu2B.5
<i>A Robotic Couples Counselor for Promoting Positive Communication</i> , pp. 248-255.	
Utami, Dina (Northeastern Univ), Bickmore, Timothy (Northeastern Univ), Kruger, Louis (Northeastern Univ)	
15:15-15:30	Tu2B.6
<i>The Influence of Individual Social Traits on Robot Learning in a Human-Robot Interaction</i> , pp. 256-262.	
GUEDJOU, Hakim (UPMC Univ), Boucenna, Sofiane (CNRS - Cergy-Pontoise Univ), Xavier, Jean (CHU Pitié-Salpêtrière), COHEN, David (APHP, Department of Child and Adolescent Psychiatry), Chetouani, Mohamed (Univ. Pierre Et Marie Curie)	

Tu2C	Belem I
Rehabilitation and Assistive Robotics (II) (Regular Session)	
Chair: Chugo, Daisuke	Kwansei Gakuin Univ
Co-Chair: Papageorgiou, Xanthi S.	National Tech. Univ. of Athens

14:00-14:15	Tu2C.1
<i>Measuring Multimodal Deformations in Soft Inflatable Actuators Using Embedded Strain Sensors</i> , pp. 263-270.	
Hart, Alexander (Georgia Inst. of Tech), Cahoon, Thomas (Georgia Inst. of Tech), Hammond III, Frank L. (Georgia Inst. of Tech)	

14:15-14:30	Tu2C.2
<i>The Wheelie - a Facial Expression Controlled Wheelchair Using 3D Technology</i> , pp. 271-276.	
Pinheiro, Paulo Gurgel (HOBOX Robotics), Gurgel Pinheiro, Cláudio (HOBOX Robotics), Cardozo, Eleri (UNICAMP)	

14:30-14:45	Tu2C.3
<i>Multimodal Sensory Feedback for Virtual Proprioception in Powered Upper-Limb Prostheses</i> , pp. 277-283.	
Lee, Joshua (Georgia Inst. of Tech), Choi, Mi Hyun (Georgia Inst. of Tech), Jung, Ji Hwan (Georgia Inst. of Tech), Hammond III, Frank L. (Georgia Inst. of Tech)	

14:45-15:00	Tu2C.4
<i>What's "up"? - Resolving Interaction Ambiguity through Non-Visual Cues for a Robotic Dressing Assistant</i> , pp. 284-291.	
Chance, Gregory (Univ. of the West of England), Caleb-Solly, Praminda (Univ. of the West of England), Jevtić, Aleksandar (Inst. of Robotics and Industrial Informatics, CSIC-UPC), Dogramadzi, Sanja (Univ. of the West of England)	

15:00-15:15	Tu2C.5
<i>A Taxonomy of Preferences for Physically Assistive Robots</i> , pp. 292-297.	
Canal, Gerard (CSIC-UPC), Alenyà, Guillem (CSIC-UPC), Torras, Carme (Csic - Upc)	

15:15-15:30	Tu2C.6
<i>Development of an Upper Limb Neuroprosthesis to Voluntarily Control Elbow and Hand</i> , pp. 298-303.	
Ogiri, Yosuke (Yokohama National Univ), Yamanoi, Yusuke (Yokohama National Univ), Nishino, Wataru (Yokohama National Univ), Kato, Ryu (Yokohama National Univ), Takagi, Takehiko (Tokai Univ), Yokoi, Hiroshi (The Univ. of Electro-Communications)	

Tu2D	Ajuda II
Linguistic Communication and Dialogue (Regular Session)	
Chair: Wada, Kazuyoshi	Tokyo Metropolitan Univ
Co-Chair: Rosenthal-von der	Univ. Duisburg-Essen

Pütten, Astrid Marieke	
14:00-14:15	Tu2D.1
<i>Learning to Understand Questions on the Task History of a Service Robot</i> , pp. 304-309.	

Perera, Vittorio (Carnegie Mellon Univ), Veloso, Manuela (Carnegie Mellon Univ)	
14:15-14:30	Tu2D.2

<i>Reprompts As Error Handling Strategy in Human-Agent-Dialog? User Responses to a System's Display of Non-Understanding</i> , pp. 310-316.	
Opfermann, Christiane Silke (Univ. of Duisburg-Essen), Pitsch, Karola (Univ. of Duisburg-Essen)	

14:30-14:45	Tu2D.3
<i>Context-Aware Selection of Multi-Modal Conversational Fillers in Human-Robot Dialogues</i> , pp. 317-322.	

Gallé, Matthias (Xerox Res. Centre Europe), Kynev, Ekaterina (Xerox Res. Centre Europe), Monet, Nicolas (Xerox Res. Centre Europe), Legras, Christophe (Xerox Res. Centre Europe)	
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14:45-15:00	Tu2D.4
<i>Strategies and Mechanisms to Enable Dialogue Agents to Respond Appropriately to Indirect Speech Acts</i> , pp. 323-328.	

Briggs, Gordon (NAVAL Res. Lab), Scheutz, Matthias (Tufts Univ)	
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15:00-15:15	Tu2D.5
<i>Dealing with 'Long Turns' Produced by Users of an Assistive System: How Missing Uptake and Reciprocity Lead to Turn Increments</i> , pp. 329-334.	

Cyra, Katharina (Univ. of Duisburg-Essen), Pitsch, Karola (Univ. of Duisburg-Essen)	
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15:15-15:30	Tu2D.6
<i>Recommendation Dialogue System through Pragmatic Argumentation</i> , pp. 335-340.	

Cheng, Ching-Ying (NTU), Qian, Xiaobei (National Taiwan Univ), Tseng, Shih-Huan (National Taiwan Univ), Fu, Li-Chen (National Taiwan Univ)	
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Tu2E	Ajuda III
Human-Robot Collaboration and Cooperation (I) (Regular Session)	

Chair: Eyssel, Friederike	Bielefeld Univ
Co-Chair: Kuhnert, Barbara	Univ. of Freiburg

14:00-14:15	Tu2E.1
<i>Co-Representation of Human-Generated Actions vs. Machine-Generated Actions: Impact on Our Sense of We-Agency?</i> , pp. 341-345.	

Sahaï, Aïsha (Ens & Onera), Pacherie, Elisabeth (Inst. Jean Nicod, ENS), Grynszpan, Ouriel (Inst. Des Systèmes Intelligents Et De Robotique), Berberian, Bruno (ONERA)	
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14:15-14:30	Tu2E.2
<i>Proactive, Incremental Learning of Gesture-Action Associations for Human-Robot Collaboration</i> , pp. 346-353.	

Shukla, Dadhichi (Univ. of Innsbruck), Erkent, Ozgur (Univ. of Innsbruck), Piater, Justus (Univ. of Innsbruck)	
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14:30-14:45	Tu2E.3
<i>Legible Action Selection in Human-Robot Collaboration</i> , pp. 354-359.	

Zhu, Huaijiang (Tech. Univ. of Munich), Gabler, Volker (Tech. Univ. München), Wollherr, Dirk (Tech. Univ. München)	
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14:45-15:00	Tu2E.4
<i>Adaptation to a Humanoid Robot in a Collaborative Joint Task</i> , pp. 360-365.	

Vannucci, Fabio (Istituto Italiano Di Tecnologia), Sciutti, Alessandra (Istituto Italiano Di Tecnologia), Jacono, Marco	
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(Istituto Italiano Di Tecnologia), Rea, Francesco (Istituto Italiano Di Tecnologia), Sandini, Giulio (Italian Inst. of Tech)	
15:00-15:15	Tu2E.5
<i>A Human Workload Assessment Algorithm for Collaborative Human-Machine Teams</i> , pp. 366-371.	
Heard, Jamison (Vanderbilt Univ), Harriott, Caroline (Draper), Adams, Julie (Oregon State Univ)	
15:15-15:30	Tu2E.6
<i>A Robust Multimodal Fusion Framework for Command Interpretation in Human-Robot Cooperation</i> , pp. 372-377.	
Cacace, Jonathan (Univ. of Naples), Finzi, Alberto (Univ. of Naples), Lippiello, Vincenzo (Univ. of Naples FEDERICO II)	

Tu3B	Belem II
Social Robotics (III) (Regular Session)	
Chair: Chetouani, Mohamed Univ. Pierre Et Marie Curie	
Co-Chair: Crick, Christopher Oklahoma State Univ	
16:00-16:15	Tu3B.1
<i>Adapting a Robot's Linguistic Style Based on Socially-Aware Reinforcement Learning</i> , pp. 378-384.	
Ritschel, Hannes (Augsburg Univ), Baur, Tobias (Augsburg Univ), Andre, Elisabeth (Augsburg Univ)	
16:15-16:30	Tu3B.2
<i>Robot Moderation of a Collaborative Game: Towards Socially Assistive Robotics in Group Interactions</i> , pp. 385-390.	
Short, Elaine Schaertl (Univ. of Southern California), Mataric, Maja (Univ. of Southern California)	
16:30-16:45	Tu3B.3
<i>Semantic Structure for Robotic Teaching and Learning</i> , pp. 391-396.	
Roy, Sayanti (Oklahoma State Univ), Kieson, Emily (Oklahoma State Univ), Abramson, Charles (Oklahoma State Univ), Crick, Christopher (Oklahoma State Univ)	
16:45-17:00	Tu3B.4
<i>The Authority of Appearance: How Robot Features Influence Trait Inferences and Evaluative Responses</i> , pp. 397-404.	
Benitez, Jonathan (Disney Res), Wyman, Alisa (Disney Res), Carpinella, Colleen (Disney Res), Stroessner, Steven (Disney Res)	
17:00-17:15	Tu3B.5
<i>Socially-Aware Navigation Planner Using Models of Human-Human Interaction</i> , pp. 405-410.	
Sebastian, Meera (Univ. of Nevada, Reno), Banisetty, Santosh Balajee (Univ. of Nevada, Reno), Feil-Seifer, David (Univ. of Nevada, Reno)	
17:15-17:30	Tu3B.6
<i>Pardon the Rude Robot: Social Cues Diminish Reactance to High Controlling Language</i> , pp. 411-417.	
Ghazali, Aimi Shazwani (Eindhoven Univ. of Tech), Ham, Jaap (Eindhoven Univ. of Tech), Barakova, Emilia I. (Eindhoven Univ. of Tech), Markopoulos, Panos (Eindhoven Univ. of Tech)	

Tu3C	Ajuda II
Non-Verbal Cues and Expressiveness (Regular Session)	
Chair: Kuno, Yoshinori Saitama Univ	
Co-Chair: Kawamura, Kazuhiko Vanderbilt Univ	
16:00-16:15	Tu3C.1
<i>A Hug from a Robot Encourages Prosocial Behavior</i> , pp. 418-423.	
Shiomi, Masahiro (ATR), Nakata, Aya (NAIST), Kanbara, Masayuki (Nara Inst. of Science and Tech), Hagita, Norihiro	

(ATR)	
16:15-16:30	Tu3C.2
<i>Enriching Robot's Actions with Affective Movements</i> , pp. 424-429.	
Angel-Fernandez, Julian M. (Vienna Univ. of Tech), Bonarini, Andrea (Pol. Di Milano)	
16:30-16:45	Tu3C.3
<i>Gesture Mimicry in Social Human-Robot Interaction</i> , pp. 430-436.	
Stolzenwald, Schachar Janis Immanuel (Univ. of Bristol), Bremner, Paul (Univ. of the West of England)	
16:45-17:00	Tu3C.4
<i>A Speech-Driven Pupil Response Robot Synchronized with Burst-Pause of Utterance</i> , pp. 437-442.	
Sejima, Yoshihiro (Okayama Prefectural Univ), Egawa, Shoichi (Okayama Prefectural Univ), Maeda, Ryosuke (Okayama Prefectural Univ), Sato, Yoichiro (Okayama Prefectural Univ), Watanabe, Tomio (Okayama Prefectural Univ)	
17:00-17:15	Tu3C.5
<i>I Get It Already! the Influence of ChairBot Motion Gestures on Bystander Response</i> , pp. 443-448.	
Knight, Heather (Carnegie Mellon Univ), Lee, Timothy (Stanford Univ), Brittany, Hallawell (Stanford Univ), Ju, Wendy (Stanford Univ)	
17:15-17:30	Tu3C.6
<i>Robots Educate in Style: The Effect of Context and Non-Verbal Behaviour on Children's Perceptions of Warmth and Competence</i> , pp. 449-455.	
Peters, Rifa (Delft Univ. of Tech), broekens, joost (TU Delft), Neerincx, Mark (TNO)	

Tu3D	Belem I
Medical Robotics (Regular Session)	
Chair: Vanderborght, Bram Vrije Univ. Brussel	
Co-Chair: Formica, Domenico Univ. Campus Bio-Medico Di Roma	
16:00-16:15	Tu3D.1
<i>Stiffness Perception During Pinching and Dissection with Teleoperated Haptic Forceps</i> , pp. 456-463.	
Ng, Canaan (Univ. of Calgary), Zareinia, Kouros (Univ. of Calgary), Sun, Qiao (Univ. of Calgary), Kuchenbecker, Katherine J. (Univ. of Pennsylvania)	
16:15-16:30	Tu3D.2
<i>Exploring the Effectiveness of Using Temporal Order Information for the Early-Recognition of Suture Surgery's Six Steps Based on Video Image Analyses of Surgeons' Hand Actions</i> , pp. 464-469.	
Tsubota, Miwa (Waseda Univ), Li, Ye (Waseda Univ), Ohya, Jun (Waseda Univ)	
16:30-16:45	Tu3D.3
<i>Development of a Two DOF Needle Driver for CT-Guided Needle Insertion-Type Interventional Robotic System</i> , pp. 470-475.	
Kim, Ki-Young (Korea Inst. of Machinery and Materials), Woo, Hyun Soo (KIMM), Cho, Jang Ho (Korea Inst. of Machinery & Materials), Lee, Yongkoo (Korea Inst. of Machinery and Materials)	
16:45-17:00	Tu3D.4
<i>Teleoperated Multimodal Robotic Interface for Telemedicine: A Case Study on Remote Auscultation</i> , pp. 476-482.	
Falleni, Sara (Scuola Superiore Sant'Anna), Filippeschi, Alessandro (Scuola Superiore Sant'Anna), Ruffaldi, Emanuele (Scuola Superiore Sant'Anna), Avizzano, Carlo Alberto (Scuola Superiore Sant'Anna)	

17:00-17:15	Tu3D.5
<i>Integrating the Users in the Design of a Robot for Making Comprehensive Geriatric Assessments (CGA) to Elderly People in Care Centers</i> , pp. 483-488.	
Lan Hing Ting, Karine (Troyes Univ. of Tech), Voilmy, Dimitri (Troyes Univ. of Tech), Iglesias, Ana (Univ. Carlos III De Madrid), Pulido Pascual, José Carlos (Univ. Carlos III De Madrid), Garcia, Javier (Univ. Carlos III De Madrid), Romero-Garces, Adrian (Univ. of Malaga), Bandera Rubio, Juan Pedro (Univ. of Malaga), Marfil, Rebeca (Univ. of Malaga), Dueñas Ruiz, Álvaro (Hospital Univ. Virgen Del Rocío)	
17:15-17:30	Tu3D.6
<i>Interactive Balance Rehabilitation Tool with Wearable Skin Stretch Device</i> , pp. 489-494.	
Pan, Yi-Tsen (Texas A&M Univ), Hur, Pilwon (Texas A&M Univ)	
Tu3E	Ajuda III
Human-Robot Collaboration and Cooperation (II) (Regular Session)	
Chair: Melhuish, Chris	BRL
Co-Chair: Law, Edith	Univ. of Waterloo
16:00-16:15	Tu3E.1
<i>Contact Detection and Physical Interaction on Low Cost Personal Robots</i> , pp. 495-501.	
Flacco, Fabrizio (CNRS), Kheddar, Abderrahmane (CNRS-AIST JRL (Joint Robotics Lab. UMI3218/CRT))	
16:15-16:30	Tu3E.2
<i>Contextual Awareness: Understanding Monologic Natural Language Instructions for Autonomous Robots</i> , pp. 502-509.	
Arkin, Jacob (Univ. of Rochester), Walter, Matthew (Toyota Tech. Inst. at Chicago), Boteanu, Adrian (Cornell Univ), Napoli, Michael (Univ. of Rochester), Biggie, Harel (Univ. of Rochester), Kress-Gazit, Hadas (Cornell Univ), Howard, Thomas (Univ. of Rochester)	
16:30-16:45	Tu3E.3
<i>Towards Robot-Human Reliable Hand-Over: Continuous Detection of Object Perturbation Force Direction</i> , pp. 510-515.	
Gómez Eguíluz, Augusto (Univ. of Ulster), Rano, Inaki (Ulster Univ), Coleman, Sonya (Univ. of Ulster), McGinnity, Martin (Univ. of Ulster)	
16:45-17:00	Tu3E.4
<i>Towards Understanding User Preferences in Robot-Human Handovers: How Do We Decide?</i> , pp. 516-521.	
Martinson, Eric (Toyota InfoTechnology Center, USA), Human, Ana (Georgia Inst. of Tech)	
17:00-17:15	Tu3E.5
<i>Where Are the Robots? In-Feed Embedded Techniques for Visualizing Robot Team Member Locations</i> , pp. 522-527.	
Seo, Stela Hanbyeol (Univ. of Manitoba), Young, James Everett (Univ. of Manitoba), Irani, Pourang (Univ. of Manitoba)	
17:15-17:30	Tu3E.6
<i>Predicting Trust in Human Control of Swarms Via Inverse Reinforcement Learning</i> , pp. 528-533.	
Nam, Changjoo (Carnegie Mellon Univ), Walker, Phillip (Univ. of Pittsburgh), Lewis, Michael (Univ. of Pittsburgh), Sycara, Katia (Carnegie Mellon Univ)	
Tu4A	Ajuda I
Cultural Factors in Human-Robot Interactions (Special Session)	
Chair: Sgorbissa, Antonio	Univ. of Genova
Co-Chair: Chong, Nak Young	Japan Advanced Inst. of Sci. and Tech

Organizer: Sgorbissa, Antonio	Univ. of Genova
Organizer: Chong, Nak Young	Japan Advanced Inst. of Sci. and Tech
Organizer: Pandey, Amit Kumar	SoftBank Robotics
Organizer: Saffiotti, Alessandro	Orebro Univ
16:00-16:15	Tu4A.1
<i>Cultural Differences in Social Acceptance of Robots (I)</i> , pp. 534-538.	
Nomura, Tatsuya (Ryukoku Univ)	
16:15-16:30	Tu4A.2
<i>Ethical Considerations of Gendering Very Humanlike Androids from an Interdisciplinary Perspective (I)</i> , pp. 539-546.	
Knox, Elena (Waseda Univ), Watanabe, Katsumi (Waseda Univ)	
16:30-16:45	Tu4A.3
<i>Encoding Cultures in Robot Emotion Representation (I)</i> , pp. 547-552.	
Dang, Thi Le Quyen (Japan Advanced Inst. of Science and Tech), Tuyen, Nguyen Tan Viet (Japan Advanced Inst. of Science and Tech), Jeong, Sungmoon (Japan Advanced Inst. of Sci. and Tech), Chong, Nak Young (Japan Advanced Inst. of Sci. and Tech)	
16:45-17:00	Tu4A.4
<i>Paving the Way for Culturally Competent Robots: A Position Paper (I)</i> , pp. 553-560.	
Bruno, Barbara (Univ. of Genova), Chong, Nak Young (Japan Advanced Inst. of Sci. and Tech), Kamide, Hiroko (Nagoya Univ), Kanoria, Sanjeev (Advinia Health Care Limited LTD), Lee, Jaeryoung (Chubu Univ), Lim, Yuto (Japan Advanced Inst. of Science and Tech), Pandey, Amit Kumar (SoftBank Robotics), Papadopoulos, Chris (Univ. of Bedfordshire), Papadopoulos, Irena (Middlesex Univ. Higher Education Corp), Pecora, Federico (Örebro Univ), Saffiotti, Alessandro (Örebro Univ), Sgorbissa, Antonio (Univ. of Genova)	
17:00-17:15	Tu4A.5
<i>Mind Attribution to Androids: A Comparative Study with Italian and Japanese Adolescents (I)</i> , pp. 561-566.	
Trovato, Gabriele (Waseda Univ), Eyssel, Friederike (Bielefeld Univ)	
17:15-17:30	Tu4A.6
<i>Face Image-Based Age and Gender Estimation with Consideration of Ethnic Difference (I)</i> , pp. 567-572.	
SHIN, MINCHUL (KAIST), Seo, JuHwan (KAIST(Korea Advanced Inst. of Science and Tech), Kwon, Dong-Soo (KAIST)	
17:30-17:45	Tu4A.7
<i>Cross-Cultural Differences for Adaptive Strategies of Robots in Public Spaces (I)</i> , pp. 573-578.	
Mussakhojayeva, Saida (Nazarbayev Univ), Sandygulova, Anara (Nazarbayev Univ)	

Technical Program for Wednesday August 30, 2017

We1A	Belem II
Human-Robot Interaction (I) (Regular Session)	
Chair: Sycara, Katia	Carnegie Mellon Univ
Co-Chair: Peshkova, Ekaterina	Alpen-Adria-Univ. Klagenfurt
09:00-09:15	We1A.1
<i>Investigating the Influence of Embodiment on Facial Mimicry in HRI Using Computer Vision-Based Measures</i> , pp. 579-586.	

Paetzel, Maike (Uppsala Univ), VARNI, Giovanna (Isir - UPMC Cnrs), Hupont, Isabelle (Pierre Et Marie Curie Univ), Chetouani, Mohamed (Univ. Pierre Et Marie Curie), Peters, Christopher (Royal Inst. of Tech), Castellano, Ginevra (Uppsala Univ)

09:15-09:30 We1A.2

Natural Head Movement for HRI with a Muscular-Skeletal Head and Neck Robot, pp. 587-592.

Barker, Steve (Oxford Brookes Univ), Izadi, Hooshang (Oxford Brookes Univ), Crook, Nigel (Oxford Brookes Univ), Hayatleh, Khaled (Oxford Brookes Univ), Rolf, Matthias (Oxford Brookes Univ), Hughes, Philip (Oxford Brookes Univ), Fellows, Neil (Oxford Brookes Univ)

09:30-09:45 We1A.3

Hybrid Chat and Task Dialogue for More Engaging HRI Using Reinforcement Learning, pp. 593-598.

Papaioannou, Ioannis (Heriot-Watt Univ), Dondrup, Christian (Heriot-Watt Univ), Novikova, Jekaterina (Heriot-Watt Univ), Lemon, Oliver (Heriot-Watt Univ)

09:45-10:00 We1A.4

Episodic Memory Formulation and Its Application in Long-Term HRI, pp. 599-606.

Sigalas, Markos (Foundation for Res. and Tech. - Hellas), Maniadakis, Michail (Foundation for Res. and Tech. -- Hellas (FORTH)), Trahanias, Panos (Foundation for Res. and Tech. -- Hellas (FORTH))

10:00-10:15 We1A.5

A Wizard-Of-Oz Study of Curiosity in Human-Robot Interaction, pp. 607-614.

Law, Edith (Univ. of Waterloo), Cai, Vicky (Univ. of Waterloo), Liu, Qi Feng (Univ. of Waterloo), Sasy, Sajin (Univ. of Waterloo), Goh, Joslin (Univ. of Waterloo), Blidaru, Alex (Univ. of Waterloo), Kulic, Dana (Univ. of Waterloo)

10:15-10:30 We1A.6

Love at First Sight: Mere Exposure to Robot Appearance Leaves Impressions Similar to Interactions with Physical Robots, pp. 615-620.

FakhrHosseini, Maryam (Michigan Tech. Univ), Barnes, Jaclyn (Michigan Tech. Univ), Hilliger, Samantha (Michigan Tech. Univ), Jeon, Myoungsoon (Michigan Tech. Univ), Park, Chung Hyuk (George Washington Univ), Howard, Ayanna (Georgia Inst. of Tech)

We1B Ajuda II
Motivations and Emotions in Robotics (Regular Session)

Chair: Bonarini, Andrea Pol. Di Milano
Co-Chair: Watanabe, Tomio Okayama Prefectural Univ

09:00-09:15 We1B.1

Impression's Predictive Models for Animated Robot, pp. 621-626.

Izui, Takamune (Tokyo Univ. of Agriculture and Tech), Venture, Gentiane (Tokyo Univ. of Agriculture and Tech)

09:15-09:30 We1B.2

Investigating the Real World Impact of Emotion Portrayal through Robot Voice and Motion, pp. 627-634.

Winkle, Katie (Univ. of the West England), Bremner, Paul (Univ. of the West of England)

09:30-09:45 We1B.3

A Framework for a Robot's Emotions Engine, pp. 635-640.

SALEM, Ben (School of Engineering,)

09:45-10:00 We1B.4

A Robot at Home – How Affect, Technology Commitment, and Personality Traits Influence User Experience in an Intelligent Robotics Apartment, pp. 641-646.

Bernotat, Jasmin (CITEC, Bielefeld Univ), Eyssel, Friederike (Bielefeld Univ)

10:00-10:15 We1B.5

Study of Emotion Rendering Design for Humanoid Robots Compiled with Real-Time Music Mood Perception, pp. 647-652.

Cheng, Stone (National Chiao Tung Univ)

10:15-10:30 We1B.6

Emotion Classification Using Linear Predictive Features on Wavelet-Decomposed EEG Data, pp. 653-657.

Kraljević, Luka (FESB Univ. of Split), Russo, Mladen (FESB Univ. of Split), Sikora, Marjan (FESB Univ. of Split)

We1C Ajuda III
Robots in Education (Regular Session)

Chair: Kwon, Dong-Soo KAIST
Co-Chair: Paiva, Ana INESC-ID and Inst. Superior Técnico, Tech. of Lisbon

09:00-09:15 We1C.1

Determining the Effect of Programming Language in Educational Robotic Activities, pp. 658-663.

Angel-Fernandez, Julian M. (Vienna Univ. of Tech), Vincze, Markus (Vienna Univ. of Tech)

09:15-09:30 We1C.2

Wizard of Oz vs Autonomous: Children's Perception Changes According to Robot's Operation Condition, pp. 664-669.

Tozadore, Daniel Carnieto (Univ. of São Paulo), Pinto, Adam Henrique (Univ. De São Paulo), Romero, Roseli Ap. Francelin (Univ. De Sao Paulo), Trovato, Gabriele (Waseda Univ)

09:30-09:45 We1C.3

Socially Assistive Child-Robot Interaction in Physical Exercise Coaching, pp. 670-675.

Guneysoz Ozgur, Arzu (EPFL), Amrich, Bert (Bogazici Univ)

09:45-10:00 We1C.4

Personalised Self-Explanation by Robots: The Role of Goals versus Beliefs in Robot-Action Explanation for Children and Adults, pp. 676-682.

Kaptein, Frank (TU Delft), broekens, joost (TU Delft), Hindriks, Koen (Delft Univ. of Tech), Neerincx, Mark (TNO)

10:00-10:15 We1C.5

Designing Telepresence Robots for K-12 Education, pp. 683-688.

Cha, Elizabeth (Univ. of Southern California), Chen, Samantha (Univ. of Southern California), Mataric, Maja (Univ. of Southern California)

10:15-10:30 We1C.6

My Classroom Robot: Exploring Telepresence for K-12 Education in a Virtual Environment, pp. 689-695.

Cha, Elizabeth (Univ. of Southern California), Greczek, Jillian (Univ. of Southern California), Song, Ao (Univ. of Southern California), Mataric, Maja (Univ. of Southern California)

We1D Belem I
Creating Human-Robot Relationships (I) (Regular Session)

Chair: Okita, Sandra Teachers Coll. Columbia Univ
Co-Chair: Gonçalves, Paulo Inst. Pol. De Castelo Branco

09:00-09:15 We1D.1

Communicating Spatial Knowledge in Japanese for Interaction with Autonomous Robots, pp. 696-703.

Cao, Lu (Saitama Univ), Fukuda, Hisato (Saitama Univ), Lam, Antony (Saitama Univ), Kuno, Yoshinori (Saitama Univ)

09:15-09:30 We1D.2

Design of a Robot That Is Capable of High Fiving with Humans, pp. 704-711.

Okamura, Erina (Univ. of Tsukuba), Tanaka, Fumihide (Univ. of Tsukuba)	We1D.3
09:30-09:45	We1D.3
<i>Readability of the Gaze and Expressions of a Robot Museum Visitor: Impact of the Low Level Sensory-Motor Control</i> , pp. 712-719.	
Moualla, Aliaa (CNRS, ENSEA, Cergy Pontoise Univ. ETIS Lab), Karaouzene, Ali (CNRS UMR 8051, ENSEA, Cergy-Pontoise Univ), Boucenna, Sofiane (CNRS - Cergy-Pontoise Univ), Vidal, Denis (IRD (Paris)), Gaussier, Philippe (CNRS UMR 8051, ENSEA, Cergy-Pontoise Univ)	
09:45-10:00	We1D.4
<i>Keep on Dancing: Effects of Expressive Motion Mimicry</i> , pp. 720-727.	
Simmons, Reid (Carnegie Mellon Univ), Knight, Heather (Carnegie Mellon Univ)	
10:00-10:15	We1D.5
<i>Hey Robot, Why Don't You Talk to Me?</i> , pp. 728-731.	
Ng, Hwei Geok (Univ. of Hamburg), Anton, Paul (Univ. of Hamburg), Brügger, Marc (Univ. of Hamburg), Churamani, Nikhil (Univ. of Hamburg), Fließwasser, Erik (Univ. of Hamburg), Hummel, Thomas (Univ. of Hamburg), Mayer, Julius (Univ. of Hamburg), Mustafa, Waleed (Univ. of Hamburg), Nguyen, Thi Linh Chi (Univ. of Hamburg), Nguyen, Quan (Univ. of Hamburg), Soll, Marcus (Univ. of Hamburg), Springenberg, Sebastian (Univ. of Hamburg), Griffiths, Sascha (Univ. Hamburg), Heinrich, Stefan (Univ. Hamburg), Navarro-Guerrero, Nicolás (Univ. of Hamburg), Strahl, Erik (Univ. Hamburg), Twiefel, Johannes (Univ. of Hamburg, Department of Informatics, Knowledge Tech), Weber, Cornelius (Knowledge Tech. Group, Univ. of Hamburg), Wermter, Stefan (Univ. of Hamburg)	
10:15-10:30	We1D.6
<i>A Communal Perspective on Shared Robots As Social Catalysts</i> , pp. 732-738.	
Joshi, Swapna (Indiana Univ. Bloomington), Sabanovic, Selma (Indiana Univ)	
We1E	Ajuda I
Virtual and Augmented Tele-Presence Environments (Regular Session)	
Chair: Nakadai, Kazuhiro Honda Res. Inst. Japan Co., Ltd	
Co-Chair: NAKAMURA, Akio Tokyo Denki Univ	
09:00-09:15	We1E.1
<i>A Mixed Reality for Virtual Assembly</i> , pp. 739-744.	
ZALDIVAR-COLOADO, Ulises (Univ. of Versailles, France), GARBAYA, Samir (ENSAM), TAMAYO-SERRANO, Paul (Univ. De Versailles Saint-Quentin-En-Yvelines), Zaldivar-Colado, Xiomara (Univ. of Sinaloa), Blazevic, Pierre (Lab. D'ingénierie Des Systèmes De Versailles)	
09:15-09:30	We1E.2
<i>Automatic Replication of Teleoperator Head Movements and Facial Expressions on a Humanoid Robot</i> , pp. 745-750.	
Ondras, Jan (Univ. of Cambridge), Celiktutan, Oya (Imperial Coll. London), Sariyanidi, Evangelos (Istanbul Tech. Univ), Gunes, Hatice (Univ. of Cambridge)	
09:30-09:45	We1E.3
<i>Understanding Human-Robot Interaction in Virtual Reality</i> , pp. 751-757.	
Liu, Oliver Dayun (Univ. of Wisconsin - Madison), Rakita, Daniel (Http://graphics.cs.wisc.edu/WP/), Mutlu, Bilge (Univ. of Wisconsin-Madison), Gleicher, Michael (Univ. of Wisconsin - Madison)	
09:45-10:00	We1E.4
<i>A Fully Immersive VR-Based Haptic Feedback System for Size Measurement in Inspection Tasks Using 3D Point Clouds</i> , pp. 758-763.	
Loconsole, Claudio (Pol. Di Bari), Tattoli, Giacomo (Scuola	

Superiore Sant'Anna), Bortone, Ilaria (TeCIP Inst. Scuola Superiore Sant'Anna), Tecchia, Franco (Scuola Superiore Sant'Anna), Leonardis, Daniele (Scuola Superiore Sant'Anna - TeCIP Inst), Frisoli, Antonio (TeCIP Inst. Scuola Superiore Sant'Anna)	We1E.5
10:00-10:15	We1E.5
<i>Augmented Reality Dialog Interface for Multimodal Teleoperation</i> , pp. 764-771.	
Pereira, André (Disney Res), Carter, Elizabeth (The Walt Disney Company), Leite, Iolanda (KTH Royal Inst. of Tech), Mars, John (Disney Res), Lehman, Jill (Disney Res)	
10:15-10:30	We1E.6
<i>Self-Reconfigurable Modular Robot Interface Using Virtual Reality: Arrangement of Furniture Made Out of Roombots Modules</i> , pp. 772-778.	
Nigolian, Valentin Zenon (EPFL), Mutlu, Mehmet (École Pol. Fédérale De Lausanne (EPFL)), Hauser, Simon (Biorob, EPFL), Bernardino, Alexandre (IST - Técnico Lisboa), Ijspeert, Auke (EPFL)	

We2A	Belem II
Human-Robot Interaction (II) (Regular Session)	
Chair: Chong, Nak Young Japan Advanced Inst. of Sci. and Tech	
Co-Chair: Barakova, Emilia I. Eindhoven Univ. of Tech	
11:00-11:15	We2A.1
<i>Decision-Theoretic Planning under Uncertainty for Multimodal Human-Robot Interaction</i> , pp. 779-784.	
Garcia, João A. (Inst. Superior Técnico - Inst. for Systems and Robotics), Lima, Pedro U. (Inst. Superior Técnico - Inst. for Systems and Robotics), Veiga, Tiago (Inst. Superior Técnico - Inst. for Systems and Robotics)	
11:15-11:30	We2A.2
<i>Crowd Sourcing 'Approach Behavior' Control Parameters for Human-Robot Interaction</i> , pp. 785-790.	
Ferland, François (ENSTA ParisTech), Tapus, Adriana (ENSTA-ParisTech)	
11:30-11:45	We2A.3
<i>Learning Users' and Personality-Gender Preferences in Close Human-Robot Interaction</i> , pp. 791-798.	
Cruz-Maya, Arturo (ENSTA-ParisTech), Tapus, Adriana (ENSTA-ParisTech)	
11:45-12:00	We2A.4
<i>Towards Reaction and Response Time Metrics for Real-World Human-Robot Interaction</i> , pp. 799-804.	
Adams, Julie (Oregon State Univ), Harriott, Caroline (Draper)	
12:00-12:15	We2A.5
<i>Affective Facial Expressions Recognition for Human-Robot Interaction</i> , pp. 805-810.	
Faria, Diego (Aston Univ), Vieira, Mário (Inst. of Systems and Robotics, DEEC, Univ. of Coimbra), Faria, Fernanda da Cunha e Castro (Inst. of Systems and Robotics, Univ. of Coimbra), Premebida, Cristiano (Univ. of Coimbra)	
12:15-12:30	We2A.6
<i>Online Nod Detection in Human-Robot Interaction</i> , pp. 811-817.	
Wall, Eduard (Bielefeld Univ), Schillingmann, Lars (Bielefeld Univ), Kummert, Franz (Bielefeld Univ)	

We2B	Ajuda II
Collaboration in Manufacturing Environments (Regular Session)	
Chair: Loconsole, Claudio Pol. Di Bari	
Co-Chair: Lorenz, Tamara Univ. of Cincinnati	

11:00-11:15	We2B.1
<i>Vibrotactile Feedback for Aiding Robot Kinesthetic Teaching of Manipulation Tasks</i> , pp. 818-823.	
Ruffaldi, Emanuele (Scuola Superiore Sant'Anna), Di Fava, Alessandro (Scuola Superiore Sant'Anna), Loconsole, Claudio (Pol. Di Bari), Frisoli, Antonio (TeCIP Inst. Scuola Superiore Sant'Anna), Avizzano, Carlo Alberto (Scuola Superiore Sant'Anna)	
11:15-11:30	We2B.2
<i>A User Study on Human-Robot-Interactive Recovery for Industrial Assembly Problems</i> , pp. 824-830.	
Muxfeldt, Arne (Tech. Univ. Braunschweig), Gopinathan, Sugeeth (Univ. of Bielefeld), Coenders, Thilo (Tech. Univ. Braunschweig), Steil, Jochen J. (Tech. Univ. Braunschweig)	
11:30-11:45	We2B.3
<i>A User Study on Personalized Adaptive Stiffness Control Modes for Human-Robot Interaction</i> , pp. 831-837.	
Gopinathan, Sugeeth (Univ. of Bielefeld), Ötting, Sonja K. (Univ. of Bielefeld), Steil, Jochen J. (Tech. Univ. Braunschweig)	
11:45-12:00	We2B.4
<i>Collision Detection, Localization and Classification for Industrial Robots with Joint Torque Sensors</i> , pp. 838-843.	
Popov, Dmitry (Innopolis Univ), Mavridis, Nikolaos (Interactive Robots and Media Lab), Klimchik, Alexandr (Innopolis Univ)	
12:00-12:15	We2B.5
<i>Human-Centric Partitioning of the Environment</i> , pp. 844-850.	
Karaoguz, Hakan (Royal Inst. of Tech. KTH), Bore, Nils (KTH Royal Inst. of Tech), Folkesson, John (KTH), Jensfelt, Patric (KTH - Royal Inst. of Tech)	
12:15-12:30	We2B.6
<i>An Integrated Approach for Industrial Robot Control and Programming Combining Haptic and Non-Haptic Gestures</i> , pp. 851-857.	
Hügler, Johannes (Fraunhofer IPK), Lambrecht, Jens (Berlin Inst. of Tech), Krüger, Jörg (Fraunhofer Inst. for Production Systems and DesignTechnology)	
We2C Ajuda III	
Detecting and Understanding Human Activity (I) (Regular Session)	
Chair: Simmons, Reid Carnegie Mellon Univ	
Co-Chair: Filippeschi, Alessandro Scuola Superiore Sant'Anna	
11:00-11:15	We2C.1
<i>Multi-Sensor Activity Recognition Using 2DPCA and K-Means Clustering Based on Dual-Measure Distance</i> , pp. 858-863.	
He, Hong (Shanghai Normal Univ), Huang, Jifeng (Shanghai Normal Univ), Zhang, Wuxiong (SIMIT, Chinese Acad. of Sciences)	
11:15-11:30	We2C.2
<i>Ex-Amp Robot: Expressive Robotic Avatar with Multimodal Emotion Detection to Enhance Communication of Users with Motor Disabilities</i> , pp. 864-870.	
Kashii, Ai (Keio Univ), Takashio, Kazunori (Keio Univ), Tokuda, Hideyuki (Keio Univ)	
11:30-11:45	We2C.3
<i>Automatic Detection of Human Interactions from RGB-D Data for Social Activity Classification</i> , pp. 871-876.	
Coppola, claudio (Univ. of Lincoln), Cosar, Serhan (Univ. of Lincoln), Faria, Diego (Aston Univ), Bellotto, Nicola (Univ. of Lincoln)	
11:45-12:00	We2C.4
<i>Two Deep Approaches for ADL Recognition: A Multi-Scale LSTM and a CNN-LSTM with a 3D Matrix Skeleton</i>	

<i>Representation</i> , pp. 877-882.	
Ercolano, Giovanni (Univ. Degli Studi Di Napoli Federico II), Riccio, Daniel (Univ. Degli Studi Di Napoli Federico II), Rossi, Silvia (Univ. Di Napoli Federico II)	
12:00-12:15	We2C.5
<i>Unsupervised Embrace Pose Recognition Using K-Means Clustering</i> , pp. 883-890.	
Kleawsirikul, Nutnaree (Tokyo Inst. of Tech), Mitake, Hironori (Tokyo Inst. of Tech), Hasegawa, Shoichi (Tokyo Inst. of Tech)	
12:15-12:30	We2C.6
<i>Classification of Gross Upper Limb Movements Using Upper Arm Electromyographic Features</i> , pp. 891-896.	
Thacham Poyil, Azeemsha (Univ. of Hertfordshire), Amirabdollahian, Farshid (The Univ. of Hertfordshire), Steuber, Volker (Univ. of Hertfordshire)	
We2D Belem I	
Creating Human-Robot Relationships (II) (Regular Session)	
Chair: Jeon, Myoungsoon Michigan Tech. Univ	
Co-Chair: Gunes, Hatice Univ. of Cambridge	
11:00-11:15	We2D.1
<i>Keep on Moving! Exploring Anthropomorphic Effects of Motion During Idle Moments</i> , pp. 897-902.	
asselborn, thibault (EPFL), JOHAL, Wafa (École Pol. Fédérale De Lausanne), Dillenbourg, Pierre (EPFL)	
11:15-11:30	We2D.2
<i>Exploring Engagement with Robots among Persons with Neurodevelopmental Disorders</i> , pp. 903-909.	
Beccaluva, Eleonora Aida (Fraternità E Amicizia Cooperativa Sociale-ONLUS), Cerabolini, Roberto (Fraternità E Amicizia Cooperativa Sociale ONLUS), Garzotto, Franca (Pol. Di Milano), Gelsomini, Mirko (Pol. Di Milano, MIT Media Lab), monaco, francesco (Pol. Di Milano), Viola, Leonardo (Pol. Di Milano), Clasadonte, Francesco (Pol. Di Milano), Bonarini, Andrea (Pol. Di Milano), Iannelli, Vito Antonio (Fraternità E Amicizia Cooperativa Sociale Onlus)	
11:30-11:45	We2D.3
<i>Estimation of Child's Personality for Child-Robot Interaction</i> , pp. 910-915.	
Abe, Kasumi (The Univ. of Electro-Communications), Hamada, Yuki (Univ. of Electro - Communications), Nagai, Takayuki (Univ. of Electro-Communications), Shiomi, Masahiro (ATR), Omori, Takashi (Tamagawa Univ)	
11:45-12:00	We2D.4
<i>Expectation Management in Child-Robot Interaction</i> , pp. 916-921.	
Lighthart, Mike (Delft Univ. of Tech), Blanson Henkemans, Olivier Anne (TNO), Hindriks, Koen (Delft Univ. of Tech), Neerinx, Mark (TNO)	
12:00-12:15	We2D.5
<i>The Role of Self-Disclosure in Human-Robot Interaction</i> , pp. 922-927.	
Eyssele, Friederike (Bielefeld Univ), Wullenkord, Ricarda (CITEC, Bielefeld Univ), Nitsch, Verena (Univ. Der Bundeswehr München)	
12:15-12:30	We2D.6
<i>Good Vibrations: How Consequential Sounds Affect Perception of Robotic Arms</i> , pp. 928-935.	
Tennent, Hamish (Cornell Univ), Moore, Dylan (Stanford Univ), Jung, Malte (Cornell Univ), Ju, Wendy (Stanford Univ)	
We2E Ajuda I	
Novel Interfaces and Interaction Modalities (Regular Session)	
Chair: Hashimoto, Hiroshi Advanced Inst. of Industrial Tech	
Co-Chair: Terada, Hidetsugu Univ. of Yamanashi	

11:00-11:15	We2E.1
<i>Hand in Air Tapping: A Wearable Input Technology to Type Wireless</i> , pp. 936-941.	
Meli, Leonardo (Univ. of Siena), Barcelli, Davide (Univ. of Siena), Lisini Baldi, Tommaso (Univ. of Siena), Prattichizzo, Domenico (Univ. Di Siena)	
11:15-11:30	We2E.2
<i>How to Teach Your Robot in 5 Minutes: Applying UX Paradigms to Human-Robot-Interaction</i> , pp. 942-949.	
Kraft, Martin (Fortiss, An-Inst. Tech. Univ. München), Rickert, Markus (Fortiss, An-Inst. Tech. Univ. München)	
11:30-11:45	We2E.3
<i>On the Recognition of Human Hand Touch from Robotic Skin Pressure Measurements Using Convolutional Neural Networks</i> , pp. 950-955.	
Denei, Simone (Univ. of Genova), Albin, Alessandro (Univ. of Genova), Cannata, Giorgio (Univ. of Genova)	
11:45-12:00	We2E.4
<i>Tortoise and the Hare Robot: Slow and Steady Almost Wins the Race, but Finishes More Safely</i> , pp. 956-961.	
Rea, Daniel J. (Univ. of Manitoba), Rahmani Hanzaki, Mahdi (Sharif Univ. of Tech), Bruce, Neil (Univ. of Manitoba), Young, James Everett (Univ. of Manitoba)	
12:00-12:15	We2E.5
<i>Monocle: Interactive Detail-In-Context Using Two Pan-And-Tilt Cameras to Improve Teleoperation Effectiveness</i> , pp. 962-967.	
Seo, Stela Hanbyeol (Univ. of Manitoba), Rea, Daniel J. (Univ. of Manitoba), Wiebe, Joel (Univ. of Manitoba), Young, James Everett (Univ. of Manitoba)	
12:15-12:30	We2E.6
<i>Artificial Neural Networks Based Myoelectric Control System for Automatic Assistance in Hand Rehabilitation</i> , pp. 968-973.	
AMRANI, MOHAMED ZINE EL ABIDINE (USTHB), Daoudi, Abdelaghani (Usthb), Achour, Nouara (USTHB)	
WePoster1	Ajuda I
Poster Session (Poster Session)	
Chair: Benvenuto, Antonella	Univ. Campus Bio-Medico Di Roma
Co-Chair: Barreto, João P.	Univ. of Coimbra
15:30-16:15	WePoster1.1
<i>Wearing Your Arm on Your Sleeve: Studying Usage Contexts for a Wearable Robotic Forearm</i> , pp. 974-980.	
Vatsal, Vighnesh (Cornell Univ), Hoffman, Guy (Cornell Univ)	
15:30-16:15	WePoster1.2
<i>The Role of Security in Human-Robot Shared Environments: A Case Study in ROS-Based Surveillance Robots</i> , pp. 981-986.	
Portugal, David (Ingeniarius, Ltd), Pereira, Samuel (Ingeniarius, Ltd), Couceiro, Micael (Univ. of Coimbra)	
15:30-16:15	WePoster1.3
<i>Evaluating the Usability and Users' Acceptance of a Kitchen Assistant Robot in Household Environment</i> , pp. 987-992.	
Pham, Thi Xuan Ngan (Hanover Univ. of Applied Sciences and Arts), Hayashi, Kotaro (Tokyo Univ. of Agriculture and Tech), Becker-Asano, Christian (Robert Bosch GmbH), Lacher, Sebastian (Bosch Corp. Japan), Mizuuchi, Ikuo (Tokyo Univ. of Agriculture and Tech)	
15:30-16:15	WePoster1.4
<i>Learning Generalizable Surface Cleaning Actions from Demonstration</i> , pp. 993-999.	
Elliott, Sarah (Univ. of Washington), Xu, Zhe (Yale Univ),	

Cakmak, Maya (Univ. of Washington)	
15:30-16:15	WePoster1.5
<i>Coordinating Flexible Human-Robot Teams by Local World State Observation</i> , pp. 1000-1005.	
Riedelbauch, Dominik (Univ. Bayreuth), Henrich, Dominik (Univ. of Bayreuth)	
15:30-16:15	WePoster1.6
<i>Design and Evaluation of P300 Visual Brain-Computer Interface Speller in Cyrillic Characters</i> , pp. 1006-1011.	
ABIBULLAEV, BERDAKH (Nazarbayev Univ), Zhumadilova, Arailym (Nazarbayev Univ), Tokmurzina, Dana (Nazarbayev Univ), Akbay, KUDERBEKOV (Nazarbayev Univ)	
15:30-16:15	WePoster1.7
<i>Integrating Olfaction in a Robotic Telepresence Loop</i> , pp. 1012-1017.	
Monroy, Javier (Univ. of Málaga), Melendez-Fernandez, Francisco (Univ. of Málaga), Gongora, Andres (Univ. De Málaga), González-Jiménez, Javier (Univ. of Málaga)	
15:30-16:15	WePoster1.8
<i>Multimodal Communication for Guiding a Person Following Robot</i> , pp. 1018-1023.	
Sarne-Fleischmann, Vardit (Ben-Gurion Univ. of the Negev), Honig, Shanee (Ben-Gurion Univ. of the Negev), Oron-Gilad, Tal (BGU), Edan, Yael (Ben-Gurion Univ. of the Negev)	
15:30-16:15	WePoster1.9
<i>Deep Recurrent Q-Learning of Behavioral Intervention Delivery by a Robot from Demonstration Data</i> , pp. 1024-1029.	
Clark-Turner, Madison (Univ. of New Hampshire), Begum, Momotaz (Univ. of New Hampshire)	
15:30-16:15	WePoster1.10
<i>Towards the Use of Consumer-Grade Electromyographic Armbands for Interactive, Artistic Robotics Performances</i> , pp. 1030-1036.	
Côté-Allard, Ulysse (Univ. Laval), St-Onge, David (Ec. Pol. De Montreal), Giguere, Philippe (Univ. Laval), Laviolette, François (Univ. Laval), Gosselin, Benoit (Univ. Laval)	
15:30-16:15	WePoster1.11
<i>Impact of Continuous Eye Contact of a Humanoid Robot on User Experience and Interactions with Professional User Background</i> , pp. 1037-1042.	
Kühnlenz, Barbara (Coburg Univ. of Applied Sciences and Arts), Wang, Zhi Qiao (Coburg Univ), Kühnlenz, Kolja (Coburg Univ. of Applied Sciences and Arts)	
15:30-16:15	WePoster1.12
<i>Formation Control Using GQ(λ) Reinforcement Learning</i> , pp. 1043-1048.	
Knopp, Martin (Tech. Univ. München), Aykın, Can (Tech. Univ. München), Feldmaier, Johannes (Tech. Univ. München), Shen, Hao (Tech. Univ. München)	
15:30-16:15	WePoster1.13
<i>Reducing the Gap between Cognitive and Robotic Systems</i> , pp. 1049-1054.	
Azevedo, Helio (CTI - Renato Archer and USP - São Carlos), Romero, Roseli Ap. Francelin (Univ. De Sao Paulo), Ribeiro Belo, José Pedro (Univ. of São Paulo)	
15:30-16:15	WePoster1.14
<i>Developing Child-Robot Interaction Scenarios with a Humanoid Robot to Assist Children with Autism in Developing Visual Perspective Taking Skills</i> , pp. 1055-1060.	
Wood, Luke Jai (Univ. of Hertfordshire), Dautenhahn, Kerstin (Univ. of Hertfordshire), Robins, Ben (Univ. of Hertfordshire), Zarak, Abolfazl (Univ. of Hertfordshire)	
15:30-16:15	WePoster1.15
<i>The Timing of Multimodal Robot Behaviors During Human-Robot Collaboration</i> , pp. 1061-1066.	

Jensen, Lars Christian (Univ. of Southern Denmark), Fischer, Kerstin (Univ. of Southern Denmark), Suvei, Daniel (Univ. of Southern Denmark), Bodenhausen, Leon (Univ. of Southern Denmark)

15:30-16:15 WePoster1.16
H-RR-T-C : Haptic Motion Planning with Contact, pp. 1067-1072.
 Blin, Nassime Michel (Laas-Cnrs, Lgp-Enit), Taix, Michel (LAAS-CNRS/Univ. Paul Sabatier), Fillatreau, Philippe (ENIT Tarbes), Fourquet, Jean-Yves (ENIT)

15:30-16:15 WePoster1.17
Studying Human Haptic Communication in a Realistic Setting - Challenges and Opportunities, pp. 1073-1077.
 Javaid, Maria (Jacksonville Univ)

15:30-16:15 WePoster1.18
Playing the Mirror Game with a Humanoid: Probing the Social Aspects of Switching Interaction Roles, pp. 1078-1083.
 Sicat, Shelly (Univ. of Calgary), Chopra, Shreya (Univ. of Calgary), Li, Nico (Univ. of Calgary), Sharlin, Ehud (Univ. of Calgary)

15:30-16:15 WePoster1.19
Gait Measurement by a Mobile Humanoid Robot As a Walking Trainer, pp. 1084-1089.
 Piezzo, Chiara (Univ. of Tsukuba), Leme, Bruno (Univ. of Tsukuba), Hirokawa, Masakazu (Univ. of Tsukuba), Suzuki, Kenji (Univ. of Tsukuba)

15:30-16:15 WePoster1.20
Trajectory Adaptation Method for Fast Walking Control of an Exoskeleton, pp. 1090-1095.
 Lee, Sang Hoon (ADD (Agency of Defense Development)), Seo, Changhoon (Agency for Defense Development), Choi, Byunghun (Agency for Defense Development), Kim, Byungun (Agency for Defense Development), Kim, Soohyun (KAIST(Korea Advanced Inst. of Science and Tech))

15:30-16:15 WePoster1.21
Above Knee Prosthesis for Ascending/descending Stairs with No External Energy Source, pp. 1096-1101.
 Fujino, Ryota (Tokai Univ), Kikuchi, Takayuki (Tokai Univ), Koganezawa, Koichi (Tokai Univ)

15:30-16:15 WePoster1.22
The Gap between Human's Attitude towards Robots in General and Human's Expectation of an Ideal Everyday Life Robot, pp. 1102-1107.
 Kuhnert, Barbara (Univ. of Freiburg), Ragni, Marco (Univ. of Freiburg), Lindner, Felix (Univ. of Freiburg)

15:30-16:15 WePoster1.23
Unintentional Entrainment Effect in a Context of Human Robot Interaction: An Experimental Study, pp. 1108-1114.
 Ansermin, Eva (CNRS, ENSEA, Univ. De Cergy Pontoise), Mostafaoui, Ghiles (CNRS, Univ. of CergyPontoise, ENSEA), Sargentini, Xavier (CNRS ENSEA Univ. De Cergy Pontoise), Gaussier, Philippe (CNRS UMR 8051, ENSEA, Cergy-Pontoise Univ)

15:30-16:15 WePoster1.24
Gesture Recognition for Humanoid Robot Teleoperation, pp. 1115-1120.
 Ajili, Insaf (IBISC)

15:30-16:15 WePoster1.25
Evaluation of a Robot Programming Framework for Non-Experts Using Symbolic Planning Representations, pp. 1121-1126.
 Liang, Ying Siu (Univ. Grenoble Alpes), Pellier, Damien (Lab. D'informatique De Grenoble - CNRS), Fiorino, Humbert (Univ. of Grenoble-Alps), Pesty, Sylvie (Univ. of Grenoble-Alps)

15:30-16:15 WePoster1.26
Evaluation of Deviation Detection and Isolation in Robot

Task Execution, pp. 1127-1132.
 Orendt, Eric M. (Univ. of Bayreuth), Henrich, Dominik (Univ. of Bayreuth)

15:30-16:15 WePoster1.27
Investigation of Joint Action: Eye Blinking Behavior Improving Human-Robot Collaboration, pp. 1133-1139.
 Hayashi, Kotaro (Tokyo Univ. of Agriculture and Tech), Mizuuchi, Ikuo (Tokyo Univ. of Agriculture and Tech)

15:30-16:15 WePoster1.28
Assessing the Social Criteria for Human-Robot Collaborative Navigation: A Comparison of Human-Aware Navigation Planners, pp. 1140-1145.
 Khambhaita, Harmish (Lab. D'analyse Et D'architecture Des Systeme, Univ), Alami, Rachid (CNRS)

15:30-16:15 WePoster1.29
Efficient Programming of Manipulation Tasks by Demonstration and Adaptation, pp. 1146-1153.
 Elliott, Sarah (Univ. of Washington), Toris, Russell (Fetch Robotics), Cakmak, Maya (Univ. of Washington)

15:30-16:15 WePoster1.30
Exploring Data Augmentation Methods in Reverberant Human-Robot Voice Communication, pp. 1154-1158.
 Gomez, Randy (Honda Res. Inst. Japan Co., Ltd), Nakamura, Keisuke (Honda Res. Inst. Japan Co., Ltd)

15:30-16:15 WePoster1.31
Development of Easily Wearable Assistive Device with Elastic Exoskeleton for Paralyzed Hand, pp. 1159-1164.
 Kawashimo, Josuke (Yokohama National Univ), Yamanoi, Yusuke (Yokohama National Univ), Kato, Ryu (Yokohama National Univ)

15:30-16:15 WePoster1.32
Spike Response Threshold Model for Task Allocation in Multi-Agent Systems, pp. 1165-1168.
 Lee, Wonki (Yonsei Univ)

15:30-16:15 WePoster1.33
A Long Time Ago in a Galaxy Far, Far Away...the Effects of Narration and Appearance on the Perception of Robots, pp. 1169-1174.
 Rosenthal-von der Pütten, Astrid Marieke (Univ. Duisburg-Essen), Straßmann, Carolin (Univ. of Duisburg-Essen), Mara, Martina (Ars Electronica Center)

We3A Belem I
Human-Centered Motion Planning and Navigation (I) (Regular Session)

Chair: Shibata, Tomohiro Kyushu Inst. of Tech
 Co-Chair: Crick, Christopher Oklahoma State Univ

16:15-16:30 We3A.1
A Framework for Interactive Teaching of Virtual Borders to Mobile Robots, pp. 1175-1181.
 Sprute, Dennis (Bielefeld Univ. of Applied Sciences), Rasch, Robin (Bielefeld Univ. of Applied Sciences), Tönnies, Klaus (Otto-Von-Guericke Univ. Magdeburg), König, Matthias (Bielefeld Univ. of Applied Sciences)

16:30-16:45 We3A.2
Socially Acceptable Robot Navigation Over Groups of People, pp. 1182-1187.
 Vega, Araceli (Univ. of Extremadura), Manso, Luis J. (Univ. of Extremadura), Bustos, Pablo (Univ. De Extremadura), Núñez Trujillo, Pedro (Univ. De Extremadura), Guimarães Macharet, Douglas (Univ. Federal De Minas Gerais)

16:45-17:00 We3A.3
Generating 3D Fundamental Map by Large-Scale SLAM and Graph-Based Optimization Focused on Road Center Line, pp. 1188-1193.

Nijima, Shun (Tokyo Univ. of Science, National Inst. of Advanced Indu), Nitta, Jirou (Tokyo Univ. of Science), Sasaki, Yoko (National Inst. of Advanced Industrial Science and Tech), Mizoguchi, Hiroshi (Tokyo Univ. of Science)

17:00-17:15 We3A.4

Progressive Stochastic Motion Planning for Human-Robot Interaction, pp. 1194-1201.

Oguz, Ozgur Salih (Tech. Univ. of Munich), Sari, Omer Can (Tech. Univ. Muenchen), Hoang Dinh, Khoi (Tech. Univ. München), Wollherr, Dirk (Tech. Univ. München)

17:15-17:30 We3A.5

Climbing Over Large Obstacles with a Humanoid Robot Via Multi-Contact Motion Planning, pp. 1202-1209.

Kanajar, Pavan (Istituto Italiano Di Tecnologia), Caldwell, Darwin G. (Istituto Italiano Di Tecnologia), Kormushev, Petar (Imperial Coll. London)

We3B Ajuda II
Human-Assistive Technologies in the "Real World" (Special Session)

Chair: Chugo, Daisuke Kwansei Gakuin Univ

Co-Chair: Yokota, Sho Toyo Univ

Organizer: Chugo, Daisuke Kwansei Gakuin Univ

Organizer: Yokota, Sho Toyo Univ

Organizer: Makino, Koji Univ. of Yamanashi

Organizer: Hashimoto, Hiroshi Advanced Inst. of Industrial Tech

16:15-16:30 We3B.1

Development of a Concavo-Convex Non-Woven Cloth to Reduce Shock to Fruit (I), pp. 1210-1215.

Makino, Koji (Univ. of Yamanashi), Ishida, Kazuyoshi (Univ. of Yamanashi), Watanabe, Hiromi (Univ. of Yamanashi), SUZUKI, Yutaka (Univ. of Yamanashi), Kotani, Shinji (Univ. of Yamanashi), Terada, Hidetsugu (Univ. of Yamanashi)

16:30-16:45 We3B.2

Pattern Based Standing Assistance Adapted to Individual Subjects on a Robotic Walker (I), pp. 1216-1221.

Chugo, Daisuke (Kwansei Gakuin Univ), Kawazoe, Shohei (Kwansei Gakuin Univ), Yokota, Sho (Toyo Univ), Hashimoto, Hiroshi (Advanced Inst. of Industrial Tech), Katayama, Takahiro (RT.WORKS), Mizuta, Yasuhide (RT.WORKS), Koujina, Atsushi (RT.WORKS)

16:45-17:00 We3B.3

Proposal of Non-Rotating Joint Drive Type High Output Power Assist Suit for Squat Lifting (I), pp. 1222-1227.

Mohri, Shun (Chuo Univ), Inose, Hiroki (Chuo Univ), Arakawa, Hirokazu (Chuo Univ), yokoyama, kazuya (Nabtesco Corp), Yamada, Yasuyuki (Chuo Univ), Kikutani, Isao (Nabtesco Corp), Nakamura, Taro (Chuo Univ)

17:00-17:15 We3B.4

Liquid Feeding System Using Cooperative Towing by Multiple Drones (I), pp. 1228-1233.

Suzuki, Masaya (Toyo Univ), Yokota, Sho (Toyo Univ), Imadu, Atsushi (Osaka City Univ), Matsumoto, Akihiro (Toyo Univ), Chugo, Daisuke (Kwansei Gakuin Univ), Hashimoto, Hiroshi (Advanced Inst. of Industrial Tech)

17:15-17:30 We3B.5

Basic Study on Appearance-Based Proficiency Evaluation of the Football Inside Kick (I), pp. 1234-1239.

Kobayashi, Naomichi (Tokyo Denki Univ), Sato, Shin'ichi (Tokyo Denki Univ), Matsuzaki, Yuta (Tokyo Denki Univ), NAKAMURA, Akio (Tokyo Denki Univ)

We3C Ajuda III
Social and Affective Robots (Special Session)

Chair: Lee, Jaeryoung Chubu Univ

Co-Chair: Barakova, Emilia I. Eindhoven Univ. of Tech

Organizer: Lee, Jaeryoung Chubu Univ

Organizer: Rudovic, Ognjen MIT Media Lab

Organizer: Picard, Rosalind MIT Media Lab

W.

16:15-16:30 We3C.1

User Experience of Conveying Emotions by Touch (I), pp. 1240-1247.

Alenljung, Beatrice (Univ. of Skövde), Andreasson, Rebecca (Uppsala Univ), Billing, Erik Alexander (Univ. of Skövde), Lindblom, Jessica (Univ. of Skövde), Lowe, Robert (Univ. of Skövde)

16:30-16:45 We3C.2

Electrodermal Activity: Explorations in the Psychophysiology of Engagement with Social Robots in Dementia (I), pp. 1248-1254.

Perugia, Giulia (Eindhoven Univ. of Tech), Rodríguez-Martín, Daniel (CETpD-UPC), Díaz-Boladeras, Marta (Res. Center for Dependency Care and Autonomous Living, UPC), Català, Andreu (Univ. Pol. De Catalunya), Barakova, Emilia I. (Eindhoven Univ. of Tech), Rauterberg, Matthias (Eindhoven Univ. of Tech)

16:45-17:00 We3C.3

Method and Improvisation: Theatre Arts Performance Techniques to Further HRI in Social and Affective Robots (I), pp. 1255-1260.

Greer, Julianne (Univ. of Texas at Arlington)

17:00-17:15 We3C.4

A Pre-Investigation for Social Robotics for Older Adults Based on User Expectations (I), pp. 1261-1266.

Ho, YiHsin (Tokyo Metropolitan Univ), Sato-Shimokawara, Eri (Tokyo Metropolitan Univ), Yamaguchi, Toru (Tokyo Metropolitan Univ), Tagawa, Norio (Tokyo Metropolitan Univ)

17:15-17:30 We3C.5

The Effects of the Robot's Information Delivery Types on Users' Perception Toward the Robot (I), pp. 1267-1272.

Kang, Dahyun (Ewha Womans Univ), Kim, Min-Gyu (Korea Inst. of Robot and Convergence), Kwak, Sonya Sona (Ewha Womans Univ)

We3D Belem II
Cloud Technologies: Empowering Robots to Connect Society (Special Session)

Chair: Luis, Santos Univ. of Coimbra

Co-Chair: Sgorbissa, Antonio Univ. of Genova

Organizer: Samaras, George Univ. of Cyprus

Organizer: Andreou, Panayiotis Univ. of Central Lancashire, Cyprus

Organizer: Luis, Santos Univ. of Coimbra

16:15-16:30 We3D.1

Learning through Sharing and Distributing Knowledge with Application to Object Recognition and Information Retrieval (I), pp. 1273-1278.

Mignon, Alexis (ProbaYes), Le Hy, Ronan (ProbaYes), Bronisz, Alban (ProbaYes), Mekhnacha, Kamel (Probayes), Luis, Santos (Univ. of Coimbra)

16:30-16:45 We3D.2

BUM: Bayesian User Model for Distributed Social Robots (I), pp. 1279-1284.

Martins, Gonçalo S. (Univ. of Coimbra), Luis, Santos (Univ. of Coimbra), Dias, Jorge (Univ. of Coimbra)

16:45-17:00 We3D.3

Speaking Robots: The Challenges of Acceptance by the Ageing Society (I), pp. 1285-1290.

Oliveira, José (Univ. of Coimbra), Martins, Gonçalo S. (Univ. of Coimbra), Jegundo, Ana (Cáritas Diocesana De Coimbra), Dantas, Carina (Cáritas Diocesana De Coimbra), Wings, Cindy (Zuyderland, Sittard-Geleen, Netherlands), Luis, Santos (Univ. of Coimbra), Dias, Jorge (Univ. of Coimbra), Perdigão, Fernando (Univ. of Coimbra)

17:00-17:15 We3D.4

Interoperability in Cloud Robotics - Developing and Matching Knowledge Information Models for Heterogenous Multi-Robot (I), pp. 1291-1296.

Quintas, João (Inst. Pedro Nunes), Menezes, Paulo (Inst. of Systems and Robotics), Dias, Jorge (Univ. of Coimbra)

17:15-17:30 We3D.5

A Cloud-Based Scene Recognition Framework for In-Home Assistive Robots (I), pp. 1297-1304.

Menicatti, Roberto (Univ. Di Genova), Sgorbissa, Antonio (Univ. of Genova)

Technical Program for Thursday August 31, 2017

Th1A Ajuda I
Machine Learning and Adaptation (Regular Session)

Chair: Becker-Asano, Robert Bosch GmbH
Christian

Co-Chair: Madokoro, Akita Prefectural Univ
Hirokazu

09:00-09:15 Th1A.1

Adaptive Time Scaling to Guarantee Temporal Constraints Based on Motion Significance, pp. 1305-1310.

Cho, Nam Jun (Hanyang Univ), Lee, Sang Hyoung (Korea Inst. of Industrial Tech), Suh, Il Hong (Hanyang Univ), Kim, Hong-Seok (Korea Inst. of Industrial Tech)

09:15-09:30 Th1A.2

Learning Robot Tactile Sensing of Object for Shape Recognition Using Multi-Fingered Robot Hands, pp. 1311-1316.

Lee, Wen-Ying (National Taiwan Univ), Huang, Ming-Bao (National Taiwan Univ), Huang, Han-Pang (National Taiwan Univ)

09:30-09:45 Th1A.3

Non-Parametric Spatial Context Structure Learning for Autonomous Understanding of Human Environments, pp. 1317-1324.

Thippur, Akshaya (KTH Royal Inst. of Tech), Stork, Johannes Andreas (KTH Royal Inst. of Tech), Jensfelt, Patric (KTH - Royal Inst. of Tech)

09:45-10:00 Th1A.4

Exploring Embodiment and Dueling Bandit Learning for Preference Adaptation in Human-Robot Interaction, pp. 1325-1331.

Schneider, Sebastian (Bielefeld Univ), Kummert, Franz (Bielefeld Univ)

10:00-10:15 Th1A.5

Context Based Semantic Scene Classification and Recognition Used for a Vision-Based Mobile Robot, pp. 1332-1337.

Madokoro, Hirokazu (Akita Prefectural Univ), Kazuhito, Sato (Akita Prefectural Univ), Nakasho, Kazuhisa (Akita Prefectural Univ), Shimoi, Nobuhiro (Akita Prefectural Univ)

10:15-10:30 Th1A.6

Impact of Embodied Training on Object Recognition, pp. 1338-1343.

Narayanan, Priya (Army Res. Lab. (ARL)), Bugajska, Magdalena (Naval Res. Lab), Lawson, Wallace (US Naval Res. Lab), Trafton, Greg (Naval Res. Lab)

Th1B Belem I
Human-Centered Motion Planning and Navigation (II) (Regular Session)

Chair: Spalanzani, Anne INRIA / Univ. Grenoble Alpes
Co-Chair: Lobo, Jorge Inst. of Systems and Robotics

09:00-09:15 Th1B.1

An Intelligent Design Interface for Dancers to Teach Robots, pp. 1344-1350.

Knight, Heather (Carnegie Mellon Univ), Simmons, Reid (Carnegie Mellon Univ)

09:15-09:30 Th1B.2

First Steps towards Emotionally Expressive Motion Control for Wheeled Robots, pp. 1351-1356.

Mueller, Steffen (Ilmenau Univ. of Tech), Trinh, Thanh Quang (Ilmenau Univ. of Tech), Gross, Horst-Michael (Ilmenau Univ. of Tech)

09:30-09:45 Th1B.3

Evaluating Critical Points in Trajectories, pp. 1357-1364.

Li, Shen (Carnegie Mellon Univ), Scalise, Rosario (Carnegie Mellon Univ), Admoni, Henny (Carnegie Mellon Univ), Srinivasa, Siddhartha (Carnegie Mellon Univ), Rosenthal, Stephanie (Carnegie Mellon Univ)

09:45-10:00 Th1B.4

Collision-Free Navigation of Multiple Unicycle Mobile Robots, pp. 1365-1372.

TANVEER, MUHAMMAD HASSAN (Univ. OF GENOVA), Sgorbissa, Antonio (Univ. of Genova), Recchiuto, Carmine Tommaso (Univ. of Genova)

10:00-10:15 Th1B.5

Formation Control for Different Maker Drones from a Game Pad, pp. 1373-1378.

Yaguchi, Yuichi (The Univ. of Aizu), Nitta, Yoshiaki (Univ. of Aizu), Ishizaka, Satoshi (Univ. of Aizu), Tannai, Tomohiro (East-Japan Accounting Center Co. Ltd.), Nakano, Shuzo (East-Japan Accounting Center Co. Ltd.), Mamiya, Takaaki (Univ. of Aizu), Naruse, Keitaro (Univ. of Aizu)

Th1C Ajuda II
Human Centered Robot Design (Regular Session)

Chair: Dias, Jorge Univ. of Coimbra
Co-Chair: Hirokawa, Masakazu Univ. of Tsukuba

09:00-09:15 Th1C.1

MINERUS Toolkit: Measuring Instruments to Evaluate Robustness and Intuitiveness of Robot Programming Concepts, pp. 1379-1386.

Orendt, Eric M. (Univ. of Bayreuth), Fichtner, Myriel (Univ. of Bayreuth), Henrich, Dominik (Univ. of Bayreuth)

09:15-09:30 Th1C.2

Neut: Design and Evaluation of Speaker Designation Behaviors for Communication Support Robot to Encourage Conversations, pp. 1387-1393.

Ohshima, Naoki (Tokyo Denki Univ), Fujimori, Ryo (Tokyo Denki Univ), Tokunaga, Hiroko (Tokyo Denki Univ), Kaneko, Hiroshi (Tokyo Denki Univ), Mukawa, Naoki (Tokyo Denki Univ)

09:30-09:45 Th1C.3

Flexure Design of a Compliant Modular Hyper-Redundant Manipulator, pp. 1394-1399.

Chanthasopeephan, Teeranoot (King Mongkut's Univ. of Tech. Thonburi)

09:45-10:00 Th1C.4

SHIN-TAI: A Method for Controlling Characteristics of a Humanoid Robot's Body Using Artificial Muscles and Fats, pp. 1400-1405.

Takahashi, Nobuhiro (The Univ. of Electro-Communications), Koike, Hideki (Tokyo Inst. of Tech)

10:00-10:15	Th1C.5
<i>A New Approach to Improve the Parameter Estimation Accuracy in Robotic Manipulators Using a Multi-Objective Output Error Identification Technique</i> , pp. 1406-1411.	
West, Craig (Lancaster Univ), Montazeri, Allahyar (Lancaster Univ), Stephen, Monk (Lancaster Univ), Duda, Dobromil (Lancaster Univ), Taylor, C. James (Lancaster Univ)	
10:15-10:30	Th1C.6
<i>Development of Multi Joint Gripper and Its Dexterous Grasping</i> , pp. 1412-1417.	
Nomura, Soichiro (Tokai Univ), Tamamoto, Takumi (Tokai Univ), Takeuchi, Keita (Tokai Univ), Koganezawa, Koichi (Tokai Univ)	
Th1D	Belem II
Ethical Issues in Human-Robot Interaction (Regular Session)	
Chair: Ben Allouch, Somaya	Saxion Univ
Co-Chair: Strait, Megan	The Univ. of Texas Rio Grande Valley
09:00-09:15	Th1D.1
<i>The Public's Perception of Humanlike Robots: Online Social Commentary Reflects an Appearance-Based Uncanny Valley, a General Fear of a "Technology Takeover", and the Unabashed Sexualization of Female-Gendered Robots</i> , pp. 1418-1423.	
Strait, Megan (The Univ. of Texas Rio Grande Valley), Aguillon, Cynthia (The Univ. of Texas Rio Grande Valley), Contreras, Virginia (The Univ. of Texas Rio Grande Valley), Garcia, Noemi (The Univ. of Texas Rio Grande Valley)	
09:15-09:30	Th1D.2
<i>Improving Robot Transparency: Real-Time Visualisation of Robot AI Substantially Improves Understanding in Naive Observers</i> , pp. 1424-1431.	
Wortham, Robert Hale (Univ. of Bath), Theodorou, Andreas (Univ. of Bath), Bryson, Joanna (Univ. of Bath)	
09:30-09:45	Th1D.3
<i>Teammates First: Favoring Ingroup Robots Over Outgroup Humans</i> , pp. 1432-1437.	
Fraune, Marlana (Indiana Univ), Sabanovic, Selma (Indiana Univ), Smith, Eliot (Indiana Univ)	
09:45-10:00	Th1D.4
<i>Do Moral Robots Always Fail? Investigating Human Attitudes towards Ethical Decisions of Automated Systems</i> , pp. 1438-1444.	
Wintersberger, Philipp (Ingolstadt Univ. of Applied Sciences), Frison, Anna Katharina (Univ. of Applied Science Ingolstadt (THI)), Riener, Andreas (Univ. of Applied Sciences Ingolstadt), Thakkar, Shailie (Independent Res)	
10:00-10:15	Th1D.5
<i>Discussions about Lying with an Ethical Reasoning Robot</i> , pp. 1445-1450.	
Lindner, Felix (Univ. of Freiburg), Wächter, Laura (Albert-Ludwigs-Univ. Freiburg), Bentzen, Martin Mose (Tech. Univ. of Denmark)	
10:15-10:30	Th1D.6
<i>A Focus Group Study of Privacy Concerns about Telepresence Robots</i> , pp. 1451-1458.	
Krupp, Margaret (Indiana Univ), Rueben, Matthew (Oregon State Univ), Grimm, Cindy (Oregon State Univ), Smart, William (Oregon State Univ)	

Th1E	Ajuda III
Detecting and Understanding Human Activity (II) (Regular Session)	
Chair: Faria, Diego	Aston Univ
Co-Chair: Rossi, Silvia	Univ. Di Napoli Federico II
09:00-09:15	Th1E.1
<i>Hand Motion Recognition Using a Distance Sensor Array</i> , pp. 1459-1464.	
Cho, Sung-Gwi (Nara Inst. of Science and Tech), Yoshikawa, Masahiro (Osaka Inst. of Tech), Ding, Ming (Nara Inst. of Science and Tech), Takamatsu, Jun (Nara Inst. of Science and Tech), Ogasawara, Tsukasa (Nara Inst. of Science and Tech)	
09:15-09:30	Th1E.2
<i>Representing Motion Information from Event-Based Cameras</i> , pp. 1465-1470.	
Sullivan, Keith (Naval Res. Lab), Lawson, Wallace (US Naval Res. Lab)	
09:30-09:45	Th1E.3
<i>Functional Imitation Task in the Context of Robot-Assisted Autism Spectrum Disorder Diagnostics: Preliminary Investigations</i> , pp. 1471-1478.	
Petric, Frano (Univ. of Zagreb), Miklic, Damjan (Univ. of Zagreb), Cepanec, Maja (Univ. of Zagreb), Cvitanović, Petra (Univ. of Zagreb), Kovacic, Zdenko (Univ. of Zagreb)	
09:45-10:00	Th1E.4
<i>Skin Vibration and Contact Force in Active Perception for Roughness Ratings</i> , pp. 1479-1484.	
Natsume, Makiko (Nagoya Inst. of Tech), Tanaka, Yoshihiro (Nagoya Inst. of Tech), Bergmann Tiest, Wouter (Hogeschool Rotterdam), Kappers, Astrid M.L. (Faculty of Human Movements Sciences, VU Univ. Amsterdam)	
10:00-10:15	Th1E.5
<i>Analysis of Upper Extremity Motion During Trip-Induced Falls</i> , pp. 1485-1490.	
Abdolshah, Saeed (Nagoya Univ), Akiyama, Yasuhiro (Nagoya Univ), Mitsuoka, Kento (Nagoya Univ), Yamada, Yoji (Nagoya Univ), Okamoto, Shogo (Nagoya Univ)	
10:15-10:30	Th1E.6
<i>IRON-BAG: Fast Classification of Humans and Objects in 3D NDT-Maps Using Structural Signatures</i> , pp. 1491-1497.	
Schmiedel, Thomas (Ilmenau Univ. of Tech), Gross, Horst-Michael (Ilmenau Univ. of Tech)	

Technical Program for Friday September 1, 2017

FW2	Lusitano II
Agent Transparency for Human-Autonomy Teaming Effectiveness (Workshop or Tutorial Session)	
09:00-17:30	FW2.1
<i>Agent Transparency for Human-Autonomy Teaming Effectiveness*</i> .	
Chen, Jessie (US Army Res. Lab.)	
FW7	Ajuda III
NISR-TG@RO-MAN2017, Workshop of the Natural Interaction with Social Robots Topic Group of Eurobotics (Workshop or Tutorial Session)	
09:00-17:30	FW7.1
<i>Workshop of the Natural Interaction with Social Robots Topic Group of Eurobotics*</i> .	
Chetouani, Mohamed (Univ. Pierre et Marie Curie), Charisi, Vicky (Univ. of Twente), Evers, Vanessa (Univ. of Twente)	

FW8	Belem I
The Mutual Shaping of Human-Robot Interaction (Workshop or Tutorial Session)	
09:00-17:30	FW8.1
<i>The Mutual Shaping of Human-Robot Interaction: Towards a Roadmap of (Non)Usage of Human-Robot Interaction*</i> .	
Ben Allouch, Somaya (Saxion Univ.), de Graaf, Maartje (Brown Univ.), Eyssel, Friederike (Bielefeld Univ.), Sabanovic, Selma (Indiana Univ.)	

FW10	Ajuda I
The Barriers of Social Robotics Take-Up by Society (Workshop or Tutorial Session)	
09:00-17:30	FW10.1
<i>The Barriers of Social Robotics Take-Up by Society*</i> .	
Luis, Santos (Univ. of Coimbra), Hanke, Sten (AIT Austrian Inst. of Tech. GmbH)	

FW3	Ajuda III
CARobots: Automated Driving Systems As Robots on Four Wheels (Workshop or Tutorial Session)	
09:00-12:20	FW3.1
<i>CARobots: Automated Driving Systems As Robots on Four Wheels*</i> .	
Riener, Andreas (Univ. of Applied Sciences Ingolstadt), Meschtscherjakov, Alexander (Univ. Salzburg), Mirnig, Alexander (Univ. Salzburg), Giuliani, Manuel (Univ. of Salzburg), Tscheligi, Manfred (Univ. of Salzburg), Jeon, Myoungsoon (Michigan Tech. Univ.), Zheng, Zhi (Vanderbilt Univ.), Park, Chung Hyuk (George Washington Univ.)	

FW5	Alter Real
User Experience and Communication in Interactive Robotic Systems: Ideas, Experiences and Case Studies (Workshop or Tutorial Session)	
09:00-12:20	FW5.1
<i>User Experience and Communication in Interactive Robotic Systems: Ideas, Experiences and Case Studies*</i> .	
de la Puente, Paloma (Vienna Univ. of Tech.), Brunete, Alberto (Univ. Pol. de Madrid), Vincze, Markus (Vienna Univ. of Tech.)	

FW1	Paso
Autonomous Robot Ontology Workshop (AROW 2017) (Workshop or Tutorial Session)	
09:00-12:20	FW1.1
<i>Autonomous Robot Ontology Workshop (AROW 2017)*</i> .	
Gonçalves, Paulo (Inst. Pol. de Castelo Branco), Fiorini, Sandro (Univ. Paris-Est Creteil), Li, Howard (Univ. of New Brunswick), Olszewska, Joanna Isabelle (Univ. of Gloucestershire, United Kingdom), Chibani, Abdelghani (Lissi Lab Paris EST Univ.)	

FW6	Belem II
Human-Robot Collaboration for an Improved Quality of Work - Scientific Knowledge, Challenges and ISO-Standards (Workshop or Tutorial Session)	
09:00-12:20	FW6.1
<i>Human-Robot Collaboration for an Improved Quality of Work*</i> .	
Bdiwi, Mohamad (Fraunhofer Inst. for Machine Tools and Forming Tech. IWU), Delang, Kathleen (Fraunhofer Inst. for machine tools and forming Tech.), Pellegrinelli, Stefania (National Res. Council of Italy, Inst. of Industrial Tech. and Automation), Fritz, Gerald (PROFACTOR GmbH), Orlandini, Andrea (National Res. Council of Italy), KOUSI, NIKI (Lab. for Manufacturing Systems and Automation)	

FWA3	Ajuda III
FW9 ARMADA'17: Artificial Perception, Machine Learning and Datasets for Human-Robot Interaction (Workshop or Tutorial Session)	
14:00-17:30	FWA3.1
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Faria, Diego (Aston Univ.), Premebida, Cristiano (Univ. of Coimbra)	

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FW4 HRI for Service Robots in RoboCup@Home (Workshop or Tutorial Session)	
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<i>HRI for Service Robots in RoboCup@Home*</i> .	
Nardi, Daniele (Sapienza Univ. of Rome), Veloso, Manuela (Carnegie Mellon Univ.), Asada, Minoru (Osaka Univ.), Lee, Daniel D. (Univ. of Pennsylvania)	

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According to IEEE rules, the author or one of the co-authors is expected to attend the conference in person to present his paper and share his ideas.

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