Editorial

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We are pleased to present the first issue of the 10th volume for International Journal of Social Robotics (SORO). For the last decade, we have witnessed many exciting achievements in social robotics, human–robot interaction, and artificial intelligence. At this moment, we would like to express our appreciation to all members of the International Advisory Board, the Associate Editors, the Editors at Springer, the Editorial Assistants, the authors, and the reviewers for their sustained support, advice and contributions. In this upcoming year, the editorial board will continue to be devoted to managing the journal in the professional and efficient manner such that the reviewing and publishing process could be optimized with ever-increasing manuscripts.

We warmly welcome Dr. Emilia Ivanova Barakova from Eindhoven University of Technology and Dr. Hong Liu from Peking University. Dr. Barakova will join the Editorial Board as an Associate Editor from 2018 and bring to us her expertise in interaction design, social robotics, cognitive and neuro-robotics, social signal processing, and designing connected products and services. Dr. Liu will join the Editorial Board as an Associate Editor from 2018 with his expertise in image processing and pattern recognition, intelligent human-robot interaction, and robot systems.

The Ninth International Conference on Social Robotics (ICSR) was successfully held in Tsukuba, Japan 22–24, November 2017, thanks to the leadership by General Chairs: Abderrahmane Kheddar and Eiichi Yoshida, Program Chairs: Kenji Suzuki, John-John Cabibihan and Friederike Eyssel, Local Arrangement Chairs: Yumeko Imamura and Masakazu Hirokawa, Workshop Chair: Sonya S. Kwak, Special Session Chair: Seiichiro Katsura, Competition Chair: Amit Kumar Pandey, Publication Chair: Hongsheng He, Finance

& Web Chair: Pierre Gergondet, Publicity Chairs: Fumihide Tanaka, Kimmo Vänni, Alan R. Wagner and Zhengchen Zhang. We would also like to thank all members in the Standing Committee and the International Program Committee. The ICSR 2017 brings together researchers and practitioners working on the interaction between humans and robots and on the integration of robots into our society, under the theme “Embodied Interactive Robots”. The ICSR 2018 will be held in beautiful Shenzhen, China. We look forward to meeting you on ten-year anniversary of the community.

According to data from Google Scholar, the papers which have been cited more than twenty times within the last 3 years are as follows (as of Nov 2017). We congratulate the authors on their insightful and well-recognized research work.

1. Rios-Martinez, Jorge, Anne Spalanzani, and Christian Laugier. “From proxemics theory to socially-aware navigation: A survey.” *International Journal of Social Robotics* 7.2 (2015): 137–153. (42 cites)
2. Royakkers, Lambèr, and Rinie van Est. “A literature review on new robotics: automation from love to war.” *International Journal of Social Robotics* 7.5 (2015): 549–570. (34 cites)
3. Kennedy, James, Paul Baxter, and Tony Belpaeme. “Comparing robot embodiments in a guided discovery learning interaction with children.” *International Journal of Social Robotics* 7.2 (2015): 293–308. (32 cites)
4. Costa, Sandra, et al. “Using a humanoid robot to elicit body awareness and appropriate physical interaction in children with autism.” *International Journal of Social Robotics* 7.2 (2015): 265–278. (29 cites)
5. Anzalone, Salvatore M., et al. “Evaluating the engagement with social robots.” *International Journal of Social Robotics* 7.4 (2015): 465–478. (29 cites)
6. Złotowski, Jakub, et al. “Anthropomorphism: opportunities and challenges in human–robot interaction.” *International Journal of Social Robotics* 7.3 (2015): 347–360. (26 cites)

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7. Kim, Beomjoon, and Joelle Pineau. “Socially adaptive path planning in human environments using inverse reinforcement learning.” *International Journal of Social Robotics* 8.1 (2016): 51–66. (26 cites)
8. Alemi, Minoo, Ali Meghdari, and Maryam Ghazisaedy. “The impact of social robotics on L2 learners’ anxiety and attitude in English vocabulary acquisition.” *International Journal of Social Robotics* 7.4 (2015): 523–535. (23 cites)
9. Asada, Minoru. “Towards artificial empathy.” *International Journal of Social Robotics* 7.1 (2015): 19–33. (20 cites)

For this issue, we are honored to introduce a collection of ten papers which cover a wide range of exciting topics in social robotics:

In the first work on “iSocioBot: A Multimodal Interactive Social Robot” by Zheng-Hua Tan, Nicolai Bæk Thomsen, Xiaodong Duan, Evgenios Vlachos, Sven Ewan Shepstone, Morten Højfeldt Rasmussen and Jesper Lisby Højvang, the authors propose a unique design of social robot, which can interact with humans using multiple modalities. The robotic system uses sound source localization, speech processing, face detection and facial expression to make human robot interaction better. The software is made publicly available.

In the second paper “How Do Communication Cues Change Impressions of Human–Robot Touch Interaction?” by Takahiro Hiran, Masahiro Shiomi, Takamasa Iio, Mitsuhiro Kimoto, Ivan Tanev, Katsunori Shimohara and Norihiro Hagita, the authors report the effects of communication cues (combining gaze behaviors and touch styles) toward the perceived feelings to social robots in haptic interaction situation after an experiment with 28 participants, which will help robotics researchers who are designing communication cues in haptic interaction with social robots.

The third work “Can Human–Robot Interaction Promote the Same Depth of Social Information Processing as Human–Human Interaction?” (by Mingyu Kim, Taesoo Kwon and Kwanguk Kim) addresses the implications of doing research on social information processing from human–robot interactions. The authors use two types of social interactions, and measure the recognition memory and head movements in human–human and human–robot interactions. Besides, this paper is an effort to contribute an important foundation for human–robot interaction research.

The fourth paper “Music to Motion: Using Music Information to Create Expressive Robot Motion” (by Mathias Sunardi and Marek Perkowski) proposes a method to utilize melodic and dynamics information from music to create expressive motion for Robot Actors with the result of an expressive and dynamic-looking robot motion. The authors also make effort to do research on the impact of the pre-

sented approach, which can provide the robot motion is more expressive and more dynamic than the motions produced by a person or without music information.

In the fifth work on “Mobile Service Robot State Revealing Through Expressive Lights: Formalism, Design, and Evaluation” by Kim Baraka and Manuela M. Veloso, the authors introduce the use of lights to reveal the dynamic robot state to enable a better human understanding of the robot given its mobility and autonomous task performance. This paper shows carefully designed expressive lights on a mobile robot help human better understand robot states and actions.

The sixth paper is “Human–Robot Interaction in Autism Treatment: A Case Study on Three Pairs of Autistic Children as Twins, Siblings, and Classmates” by Alireza Taheri, Ali Meghdari, Minoo Alemi, Hamidreza Pouretmad. In this paper, three pairs of children with autism include a pair of twins, two siblings, and two classmates were enrolled in a 12-session robot-assisted group-games program. The designed program effect on the subjects’ behavior seems to be different for participants from different points on the autism spectrum; and even the high functioning subjects showed different potential behavioral progress.

The seventh work is “The Effect of Emotions and Social Behavior on Performance in a Collaborative Serious Game Between Humans and Autonomous Robots” by Petar Jercic, Wei Wen, Johan Hagelbäck and Veronica Sundstedt. This paper is to investigate performance in a collaborative human–robot interaction on a shared serious game task. The work suggests that using robot collaborators might be as efficient as using human ones, in the context of serious game collaborative tasks.

The eighth paper is “A Decision-Theoretic Approach for the Collaborative Control of a Smart Wheelchair” by Mahmoud Ghorbel, Joelle Pineau, Richard Gourdeau, Shervin Javdani, Siddhartha Srinivasa. The authors propose a framework for the collaborative control of a smart wheelchair designed for individuals with mobility impairments. The wheelchair is based on a decision-theoretic control mode, and accepts commands from both the human user and robot controller.

The following paper, “Investigating People’s Rapport Building and Hindering Behaviors When Working with a Collaborative Robot” (by Stela H. Seo, Keelin Griffin, James E. Young, Andrea Bunt, Susan Prentice, and Verónica Loureiro-Rodríguez), aims to study rapport building between human and robots. A framework of rapport-building and rapport-hindering behaviors from relevant human–human work has been synthesized in this work to provide insightful foundation for human–robot collaboration.

In the last paper, Long-Term Cohabitation with a Social Robot: A Case Study of the Influence of Human Attachment Patterns (by Michał Dziergwa, Mirela Kaczmarek, Paweł

Kaczmarek, Jan Kedzierski, Karolina Wadas-Szydłowska), the authors have conducted the experiment, where three people spend 10 days with social robots in their own apartments,

to study a relatively long-term (10 days) human–robot interaction and communication while the social robot is operated in a fully autonomous manner.