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2018 IEEE/RSJ International Conference on Intelligent Robots and Systems, Madrid, Spain

The IEEE/Robotics Society of Japan (RSJ) International Conference on Intelligent Robots and Systems (IROS 2018) is the flagship conference in the field of robotics and the biggest international event of its kind for researchers, companies, and end users. IROS 2018 (www.iros2018.org) took place for the first time in Madrid, Spain. The venue for the conference, which was held 1–5 October, was the modern Madrid Municipal Conference Center in the Campo de las Naciones business area.

The motto of the event, “Towards a Robotic Society,” reflected the increasing integration of robotics in our daily lives for activities ranging from manufacturing processes to the rehabilitation of patients with mobility problems. Many of the papers presented in Madrid dealt with the topic of human-robot coexistence.

IROS 2018, the 30th edition, received a record number of papers, with 2,704 submissions (a 25% increase over IROS 2017). Organizers approved 1,254 papers for oral presentations, an acceptance rate of 46.4%. The number of workshops and tutorials also was a record, with 99 submissions and 56 accepted proposals (57%). Including papers, workshops and tutorials, special sessions, and late-breaking results, the number of submissions totaled 3,010.

Spain’s King Felipe VI was on hand to officially open IROS 2018. Speaking about the future of robotics in society, he said, “This international conference on robotics enables us to look ahead of

our time, to gaze toward the society of the future, a society in which robotics and artificial intelligence, adequately developed, should contribute to our growth and to the improvement of our social well being.”

IROS 2018 attracted international and national media attention. It generated numerous on-site interviews and press conferences, appearances on Spanish

prime-time TV programs, and articles in such newspapers as *El País* and *La Vanguardia* and by such press agencies as Agence France-Presse and Europa Press. News of the event was also reported by ABC, the American television network. Numerous conference videos were broadcast over a special YouTube channel created for the event. More than 2,000 Twitter posts were published.



The Madrid Municipal Conference Center, venue of IROS 2018.



Spain’s King Felipe VI opened IROS 2018.



In the front row at the IROS 2018 opening ceremony (from left): Program Chair Cecilia Laschi, Plenary Speaker Marc Raibert, and Session Chair Nikos Papanikolopoulos.



An IROS 2018 exhibit with Advisory Committee Member Osama Khatib (facing the camera).



IROS 2018 General Chair Carlos Balaguer (right) and Advisory Committee Member Paolo Dario at a press conference.



Interested audience members observing a technical session.

The conference attracted 4,401 attendees, including 3,678 full registrations (a 37% increase over IROS 2017), 388 competition registrations, 285 exhibitions, and 50 registrations for those accompanying presenters and exhibitors. The papers accepted represented 62 countries, with 26% originating from the United States, 11% from Germany, 10% from Japan, 6% from the United Kingdom, and 5% each from Spain, France, and Italy.

The event featured three plenary speakers: Mark Raibert, Kanako Harada, and Juergen Schmidhuber. Of the 20 keynote speakers, 10 were women, representing an equal gender distribution for the first time. There were 165 technical sessions, and 10 rooms were set up for oral-interactive formats with eight displays in each room to facilitate the interaction. There were

also 14 special sessions, 48 workshops (33 full day and 15 half day), eight tutorials (three full day and five half day), and nine competitions (seven indoor and two outdoor).

The 11 discussion forums dealt with topics focused on robotics and its impact on society, including the legal ramifications of robotics, the psychological perceptions of robots, and future applications involving autonomous vehicles. Organizers also staged an Industry Activity and an Entrepreneur Activity with 10 finalists. In addition, participants had the opportunity to tour an Airbus factory, the European Space Astronomy Centre, and the Centre for Automation and Robotics.

Eleven awards, including the traditional Best Paper Award and Best Student Paper Award, were given at IROS

2018, with 39 finalists in different categories. Among the award winners were Matt Mason, who received the IEEE Technical Field Award in Robotics and Automation for his “scientific and educational contributions to the mechanics of manipulation enabling real-world robot autonomy, and for leadership in robotics,” and Bill Hamel, who received the IEEE RAS George Saridis Leadership Award in Robotics and Automation for his “continued leadership that has significantly contributed to the growth and development of robotics in hazardous environments and to the IEEE RAS.”

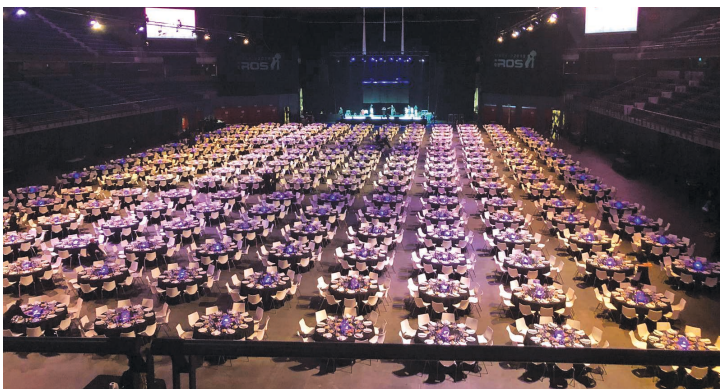
The exhibition area took up 2,200 m², accommodating 168 stands from companies and institutions. The space was divided into three areas: one for companies, one for results from European Union projects, and one for universities and research centers.



The interactive part of a technical session with a mixed oral and interactive format.



2019 IEEE President Toshio Fukuda (left) presents awards to Bill Hamel (center) and Matt Mason (right). Mason received the IEEE Technical Field Award in Robotics and Automation, and Hamel received the IEEE RAS George Saridis Leadership Award in Robotics and Automation.



The conference banquet was held at Madrid's WiZink Center.



General Chair Carlos Balaguer (left) and Conference Manager Rebeca Izquierdo.



At the conference banquet (from left): Dong-Soo Kwon, C.S. George Lee, Miroslav Kulich, Toshio Fukuda, Duco Drenth, Fumio Harashima, Dominik Bösl, Jianwei Zhang, and Xumei Qiu.

Social events at IROS 2018 included the welcome reception in the Crystal Ballroom of Madrid's Town Hall, the conference banquet in the WiZink Center (an indoor sports arena) with a capacity of more than 2,500 seats, and the farewell party held at the Madrid Convention Center.

The Organizing Committee, determined to make IROS 2018 the best

one yet, pioneered several innovations, including the following:

- pushing for new faces and young researchers for important talks
- balanced gender and diversity distribution
- a successful oral-interactive presentation format with displays in the same room
- free tablets with proceedings for registered attendees

- travel grants for students, especially those from developing countries
- free public transportation during the conference for registered attendees
- free social events for every registered attendee.

Carlos Balaguer, general chair of IROS 2018 and professor of the Robotics-Lab at the University Carlos III of Madrid, noted that the event brought together leading researchers in robotics from all over the world to work together to build "our future robotics society."

We thank the Organizing Committee, the Local Organizing Committee, and volunteers and managers for their valuable support. Special thanks to Rebeca, Luis, Miguel Ángel, Concha, Alberto, Santi, Juan, Dolores, David, Ramón, María, Álvaro, José Carlos, Fernando, Manolo, Jorge, Paloma, Luis Miguel, Eduardo, Sonia, Pilar, Lucía, Hana, Lucía, and many more whom we probably missed.