

# IEEE ROBOTICS & AUTOMATION MAGAZINE

Vol. 25, No. 1 March 2018  
ISSN 1070-9932  
<http://www.ieee-ras.org/publications/ram>



## Socioethics

*Approaches to  
Robotics Development*

# 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems

The 2017 IEEE/Robotics Society of Japan (RSJ) International Conference on Intelligent Robots and Systems (IROS 2017) took place successfully in the beautiful city of Vancouver, British

Columbia, Canada, 24–28 September 2017. The gathering drew 2,678 paid registrations—a record number with an excellent turnout at the robot competitions and industrial exhibition. The conference venue was the Vancouver Convention Centre, a magnificent, spacious, state-of-the-art facility on the city’s waterfront,

with a dramatic mountain backdrop (Figure 1).

IROS 2017’s theme was “Friendly People, Friendly Robots,” a tip of the hat to the fact that robots are increasingly becoming a part of our society in different forms and environments, working for, with, and around us. The conference program included 970

Digital Object Identifier 10.1109/MRA.2017.2787230  
Date of publication: 12 March 2018



**Figure 1.** The celebration of IROS’s 30th anniversary in Vancouver coincided with Canada’s 150th anniversary, proclaimed by the sign in the foreground. In the background of this photo, taken by Max Meng during IROS 2017, is the spectacular Vancouver Convention Centre.



**Figure 2.** Fei-Fei Li, of Stanford University/Google, delivers the plenary talk “A Quest for Visual Intelligence.”



**Figure 3.** Intense effort is invested in getting a robot ready for the drone race competition at the IROS gathering.





**Figure 4.** Participants listen to Jorge Cham, author of *PHD Comics*, presenting his thought-provoking and humorous special talk “The Science Gap.”



**Figure 6.** Young IROS delegates browse the IROS@30 celebration posters, one for each of the conference’s 30 years, starting in 1988.



**Figure 5.** The IROS@30 logo, designed by Max Meng, with the names of the 30 past host cities.



**Figure 7.** A special commemorative plaque was presented at the conference banquet to each of the four individuals who played critical leadership roles in IROS history (starting second from left): Fumio Harashima, Tzjn-Jong Tarn, Toshio Fukuda, and C.S. George Lee. Presenting the plaques were IROS Award Chair Bill Hamel (farthest left) and IROS 2017 General Chair Hong Zhang (farthest right).

papers for oral presentations, drawn from 2,164 full-length submissions, a 45% acceptance rate. They were organized in 18 parallel tracks and ran over three days. Three plenary talks (by Dieter Fox, Fei-Fei Li, and Maja Mataric) and 15 keynotes from the leaders of the IROS community anchored the presentations (Figure 2).

In addition, participants presented 282 abstract-only submissions as posters. On its first and last day, the conference offered 39 workshops, chosen from 63 initial proposals, and all were well attended. In parallel with the oral and poster sessions, IROS 2017 also included a robot competition program with three events: drone racing, robotic grasping and manipulation, and robot magic with humanoid robots (Figure 3). Moreover, the conference featured three forums



**Figure 8.** IROS 2017 delegates mingle at the welcome reception in the ballroom foyer of the Vancouver Convention Centre.

and an industrial speaker session. Finally, Jorge Cham, author of *PHD Comics*, gave a special talk, thought provoking as well as humorous, at the end of the technical

sessions (Figure 4). It provided both entertainment and a unique perspective on the lives and careers of robotics educators and students.



The industrial exhibition was popular with both exhibitors and visitors. A total of 54 companies and organizations filled up the entire exhibition space. Various sources provided 15 welcome

sponsorships at various levels, ranging from platinum to gold, silver, and bronze, and also supported special events. IROS 2017 ran technical tours to seven local companies and university

research laboratories (at the University of British Columbia and Simon Fraser University).

IROS turned 30 in Vancouver (Figure 5). From a humble beginning in 1988 as a workshop in Tokyo, with just over 100 papers, the annual meeting has grown into a leading, multidimensional international conference attended by thousands. IROS 2017 organized a number of activities in celebration of the first 30 years of this great gathering. The Convention Centre sported banners and posters about each past IROS and its host city (Figure 6). Large digital screens throughout the venue displayed video highlights and award-winning papers from earlier proceedings. Four individuals who played major leadership roles in the IROS organization received special plaques (Figure 7). They were two former IROS Steering Committee chairs, Fumio Harashima and Tzyh-Jong Tarn; the current IROS Steering Committee chair, C.S. George Lee; and the first IROS general chair, Toshio Fukuda.

IROS 2017 featured several innovative efforts to enrich and broaden the IROS experience for its attendees. *Robotics and Automation Letters* with IROS Option was inaugurated at the conference and drew 290 submissions. Industrial participants clearly responded to the call for abstract-only submissions as a convenient way to gain



**Figure 9.** Conference participants prepare to enjoy the banquet in the ballroom of the Vancouver Convention Centre.



**Figure 10.** A photo posted at the conclusion of IROS 2017 on the conference Twitter account by Edgar Bolivar of the University of Texas, Dallas, with the comment: "Friendly people, friendly robots! What a fantastic venue for personal and professional growth. Thank you @IROS2017!"



**Figure 11.** The members of the IROS Steering Committee at the end of their annual meeting in The Observatory restaurant, atop Grouse Mountain in North Vancouver.

entry to the meeting. A conscientious effort was made to achieve a healthy gender balance in the plenary and keynote speaker lineup. In addition, IROS 2017 organizers worked with ROSCon 2017 for the two conferences to collocate in Vancouver. Cham's lighthearted talk was standing room only and provided a much-needed break after four days of technical presentations. Last but not least, the continued effort on green and effective delivery of technical contents (through proceedings and digest)

brought IROS close to a system that is entirely web based. In fact, IROS 2017 set a new all-time Vancouver Convention Centre record for the number of unique Wi-Fi connections (more than 5,100), an indication that the IROS community is well equipped and ready for this important transition.

With 30 years of IROS behind us, this wonderful conference has become a vital vehicle for international robotics researchers to engage with each other and exchange information (Fig-

ures 8–11). IROS 2017 maintained this tradition. As the demand for robotics continues to grow rapidly, there is every reason to believe that, with the support of the best and the brightest of our community, IROS will continue its excellence. We wish IROS the very best, and look forward to IROS 2018 in Madrid, Spain!

—Hong Zhang, General Chair,  
IROS 2017

## IROS 2017 Award Winners Announced

The IEEE/Robotics Society of Japan International Conference on Intelligent Robots and Systems (IROS 2017) was held 24–28 September 2017, in Vancouver, British Columbia, Canada. Congratulations to the following recipients of IROS awards, which were announced on 27 September during the awards luncheon.

### IROS Harashima Award for Innovative Technologies

This award is to honor Prof. Fumio Harashima, the founding honorary chair of the IROS conferences, by recognizing outstanding contributions of an individual of the IROS community who has pioneered activities in robotics and intelligent systems.

- Kevin M. Lynch, Northwestern University, United States: “For his pioneering contributions to robotic manipulation” (Figure 1).

### IROS Distinguished Service Award

This award recognizes an individual who has performed outstanding service and leadership for the benefit and advancement of the IROS conference. Up to two awards are given annually at the IROS conference.

- Nancy M. Amato, Texas A&M University, United States: “For outstanding contributions to IROS editorial methods and processes” (Figure 2).

- Wolfram Burgard, University of Freiburg, Germany: “For outstanding contributions to the organization and quality of IROS technical programs” (Figure 3).

### IROS Toshio Fukuda Young Professional Award

This award recognizes individuals from academic institutions, government, industry, or research laboratories who, in their early career, have made identifiable contributions that



**Figure 1.** Bill Hamel (left) presents Kevin Lynch with the IROS Harashima Award for Innovative Technologies.