

# Preface

Field and Service Robotics (FSR) is the leading single-track conference on applications of robotics in challenging environments. Its goal is to report and encourage the development and experimental evaluation of field and service robots, and to generate a vibrant exchange and discussion in the community. Field robots are non-factory robots, typically mobile, that operate in complex and dynamic environments: on the ground (Earth or other planets), under the ground, underwater, in the air, or in space. Service robots are those that work closely with humans to help them with their lives.

The first FSR was held in Canberra, Australia, in 1997. Since that first meeting, FSR has been held roughly every two years, cycling through Asia, the Americas, and Europe. This book presents the results of the 10th edition of Field and Service Robotics, FSR 2015, held in Toronto, Canada, from 23 to 26 June 2015. This was the first time it has been held in Canada. This year we had 63 submitted papers from which we accepted 27 for oral presentations and 15 for poster presentations.

FSR 2015 was organized by the following team:

Timothy D. Barfoot  
General Chair  
University of Toronto

David S. Wettergreen  
Program Chair  
Carnegie Mellon University

Jonathan Kelly  
Local Arrangements Chair  
University of Toronto

Francois Pomerleau  
Website and Publicity Chair  
University of Toronto

Angela Schoellig  
Technical Tour Chair  
University of Toronto

The FSR 2015 International Program Committee generously provided their time to carry out detailed reviews of all the papers:

Peter Corke: Queensland University of Technology, Australia  
Jonathan Roberts: Queensland University of Technology, Australia  
Alex Zelinsky: DSTO, Australia  
Uwe Zimmer: Australian National University, Australia  
Salah Sukkarieh: University of Sydney, Australia  
Ben Upcroft: Queensland University of Technology, Australia  
Timothy D. Barfoot: University of Toronto, Canada  
Jonathan Kelly: University of Toronto, Canada  
David S. Wettergreen: Carnegie Mellon University, USA  
Philippe Giguere: University of Laval, Canada  
Steve Waslander: University of Waterloo, Canada  
Josh Marshall: Queens University, Canada  
Francois Pomerleau: University of Toronto, Canada  
Chris Skonieczny: Concordia University, Canada  
Arto Visala: Helsinki University of Technology, Finland  
Simon Lacroix: LAAS, France  
Christian Laugier: INRIA, France  
Cedric Pradalier: GT-Lorraine, France  
Andreas Birk: Jacobs University, Germany  
Keiji Nagatani: Tohoku University, Japan  
Kazuya Yoshida: Tohoku University, Japan  
Takashi Tsubouchi: University of Tsukuba, Japan  
Genya Ishigami: Keio University, Japan  
Miguel Angel Salichs: Universidad Carlos III de Madrid, Spain  
Roland Siegwart: ETH Zurich, Switzerland  
David P. Miller: University Oklahoma, USA  
Sanjiv Singh: Carnegie Mellon University, USA  
Gaurav Sukhatme: University of Southern California, USA  
Alonzo Kelly: Carnegie Mellon University, USA  
Chuck Thorpe: Clarkson University, USA  
David Silver: Google[X], USA  
Carrick Dettweiler: University of Nebraska, USA  
Stewart Moorehead: John Deere Corp., USA  
Steve Nuske: Carnegie Mellon University, USA  
Gabe Sibley: University of Colorado, USA  
Ross Knepper: Cornell University, USA  
Michael Jakuba: Woods Hole, USA

In addition to the submitted papers presented at the conference, there were four excellent keynote speakers at FSR 2015 and we would like to acknowledge their excellent contributions to the conference:

- Chris Urmson, Director, Self-Driving Cars, Google[x], “Realizing Self-Driving Vehicles”
- Paul Newman, Professor, University of Oxford, “Fielding Robots with Learnt Place-Specific Excellence”
- Sanjiv Singh, Professor, Carnegie Mellon University, “As the Drone Flies: The Shortest Path from Ground to Aerial Autonomy”
- Ryan Gariepy, Chief Technology Officer, Clearpath Robotics, “The Evolution of a Robotics Company”

FSR 2015 would not have been possible without the generous support of our sponsors. In particular, Clearpath Robotics went above and beyond to provide financial and in-kind support. The University of Toronto Institute for Aerospace Studies and Faculty of Applied Science and Engineering also provided financial support.

David S. Wettergreen  
Timothy D. Barfoot

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