

Call for Papers - RSS 2015 Workshop:

“The problem of mobile sensors: Setting future goals and indicators of progress for SLAM”

July 17, 2015, Rome

Website: <http://ylatif.github.io/movingsensors/>

MOTIVATION AND OBJECTIVES

Simultaneous Localization and Mapping (SLAM) is an important problem in mobile robotics and its solution is fundamental in order to achieve true autonomy. As soon as sensors start moving in the environment, a SLAM problem needs to be solved, to associate sensor measurements to geographic locations. The goal of the workshop is to define an agenda for future research on SLAM, through the discussion of two main themes: firstly, the workshop will provide an occasion to debate what the community expects from a complete SLAM solution, and secondly, top researchers in the field will provide an overview on where we stand today and what future directions need to be taken to achieve the expected goals.

The workshop will include heterogeneous invited talks, so to define present and future of SLAM through the lens of both researchers and users. Our schedule includes presentations from experts in the field, who can provide technical insight into the problem, as well as researchers who have proposed different benchmarks and datasets that make the evaluation of state-of-art algorithms possible. The fundamental aim of the workshop is to address the question: What needs to happen so we can say that SLAM is solved? Do we need more well-constructed benchmarks? Should algorithms provide mathematical guarantees so we can claim that they work in every scenario?

SCHEDULE

The workshop will include **invited talks** given by leading researchers from both academia and industry (a tentative schedule is available on the [workshop website](#)). **Contributed papers** will be presented during the poster session.

BROAD PARTICIPATION

Besides the invited talks and the paper submissions, we plan to have a broad participation from the robotics community, by enabling a website where researchers and users can post questions and ideas related to the future of SLAM (open problems, current status, opportunities). The posts will be moderated by the organizers and addressed by the invited speakers during the workshop.
(join the community and post your questions/comments by clicking [here](#), or via the [workshop website](#)).

SUBMISSIONS

Participants are invited to submit extended abstracts (max 2 pages) or full papers (max 8 pages) presenting new or ongoing research.

We solicit contributions regarding the following topics:

- Challenges and solutions for SLAM
- New theoretical tools for SLAM
- New benchmarks for SLAM
- Real-world applications for SLAM
- Active SLAM
- Long-term autonomy and experiments
- Robustness in localization and map building
- Mapping and localization in dynamic environments
- Semantic SLAM
- New sensors and sensor fusion strategies

Papers have to be submitted as a single PDF file and will be reviewed by the program committee.

Multimedia demonstrations are also encouraged.

Please submit your manuscript at:
<https://cmt.research.microsoft.com/MS2015/>

IMPORTANT DATES

Submission Due: May 18, 2014

Acceptance Notification: June 20, 2014

Camera Ready Papers Due: July 1, 2014

Workshop: July 17, 2015

AWARDS

We will assign the **best poster award** to the authors of the best contributed submission. Quality and impact of the submissions will be evaluated by the program committee. More details about the award will be given shortly.

ORGANIZERS

Cesar Cadena, University of Adelaide

Luca Carlone, Georgia Institute of Technology

Henry Carrillo, University of Zaragoza

Yasir Latif, University of Zaragoza & University of Adelaide

John Leonard, Massachusetts Institute of Technology

José Neira, University of Zaragoza

Ian Reid, University of Adelaide

PROGRAM COMMITTEE

José Angel Castellanos, University of Zaragoza

Liam Paull, Massachusetts Institute of Technology

Niko Sünderhauf, Queensland University of Technology

Gian Diego Tipaldi, Albert-Ludwigs-Universität Freiburg

Brian Williams, Google

Davide Scaramuzza, University of Zurich

Margarita Chli, University of Edinburgh

Paul Huang, University of Delaware

Dorian Galvez-Lopez, University of Colorado

Luis Puig, University of Pennsylvania

FURTHER INFORMATION

Please visit the workshop website: <http://ylatif.github.io/movingsensors/>
or contact the organizers:

Cesar Cadena (cesar.cadena@adelaide.edu.au)

Luca Carlone (luca.carlone@gatech.edu)

Henry Carrillo (henrydcl@gmail.com)

Yasir Latif (yasir.latif@gmail.com)

John Leonard (jleonard@mit.edu)

José Neira (jneira@unizar.es)

Ian Reid (ian.reid@adelaide.edu.au)