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Open Invited Track on: Agro-Robotics

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This OIT-proposal was defined in the TC8.1 Control in Agriculture –meeting in Seattle USA August 15, 2016.

Abstract: This proposal is for an open invited track (OIT) on the problem of robotics in agriculture. For sensing and automation in Agriculture, there is a parallel OIT. The main goals of this OIT are to discuss and analyze system level research on robotics in different areas of agriculture for increasing agricultural productivity, improving worker health and safety, optimizing resource utilization, and reducing labor requirements. For example for automatic driving of tractors in crop farming and other work-machines, there exist a lot of commercial products, which are used widely. Milking robots are widely used, too. The research systems should be tested in real context.

Mechanization and mobile & industrial robotics technologies have been an important means for increasing agricultural productivity, improving worker health and safety, optimizing resource utilization, and reducing labor requirements. The track will provide an opportunity for learning the state-of-the-art and for discussion on past achievements, and future directions in precision and automated agriculture. The conference is also expected to provide a venue for leveraging the advances in other lateral technologies related to robotics for enhancing the productivity in agriculture.

In outdoor robotics for agriculture, special demands arise form changing illumination conditions due to the sun light. In indoor use, the conditions can be quite harsh e.g. in animal farming.

Special themes in Agrorobotics

1. Sensing and Automation with UAVs
2. Path planning, positioning and motion control in fieldrobotics for crop farming
3. Precision Agriculture and Variable Rate Technologies
4. Machine Vision and Robotics for Crop Harvesting
5. Machine Vision and Robotics for Weed Control
6. Robotics in Plant Factory, Protected Cultivation and Greenhouses
7. Machine vision and Robotics in Animal Farming
8. Robotics for Post-Harvest/Processing

Web site: none

Code for submitting contributions: bda14

Full description: PDF