

**Open Seminar on 26 Mar. (10:30-14:30 at S-173)**

**Toward commercialization of robotic systems for high-value crops:  
state-of-the-art review and challenges ahead**

**Abstract:**

This review analyzes the factors limiting commercialization of robotic systems developed for Plant Maintenance Operations (PMOs) and future R&D challenges to address these factors. The presentation focuses on state-of-the-art robotic developments for high-value crops PMOs. Robotic systems developed for PMOs were found to be harvesting (N=48), spraying (N=10), and many weeding robots with only two robots developed for other PMOs. Spraying and weeding robots were already reviewed in-depth and this paper presents a review of only harvesting robots regarding the crop harvested, performance indicators, design process techniques used, hardware design decisions, and algorithm characteristics. However, none of the harvesting robots were commercialized and seven factors limiting commercialization were identified. Seven future challenges were listed to address these limiting factors.

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