Special Session Proposal for the Polish Control Conference 2026

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Proposed Session Title: ***Intelligent robots for environmental and agriculture applications***

Abstract:

This special session is dedicated to autonomous, comprehensive strategies for harvesting vegetables and fruits using robots/manipulators, quadrotors etc. in intelligent greenhouses.

Description:

Smart greenhouses (small farms) offer the advantage of being able to ensure a stable supply of agricultural products of high consumer quality and without damage all year around. Because smart firms can more effectively manage agricultural crops, research is underway around the world on smart farms, in particular autonomous harvesting of vegetables and fruits using robots. Consequently, the aim of this special session is to provide new ideas in constructing mobile manipulators and mobile platforms, application of intelligent sensors in agricultural environment perception, generation methods for both end-effector of mobile manipulators and mobile platforms, which are suitable for vegetables and fruits harvesting. Other topics related to smart greenhouses encompass control of mobile manipulators and mobile platforms as well as modern techniques for recognizing, classifying and pose determining of ripe vegetables and fruits for harvesting by robots.