
Precision Agriculture
JULY 5-10, 2012
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The International Society of Precision Agriculture presents the
11th International Conference on
Precision Agriculture
JULY 15-18, 2012 • Hyatt Regency Indianapolis, Indiana USA

Title of Abstract: **Architecture and model of data integration between management systems and agricultural machines for precision agriculture**

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Body of Abstract: The development of robotic systems has challenges as the high degree of interdisciplinarity, the difficulty of integration between the various robotic control systems and lack of standardization in the definition of electronics and control systems that will be used to build the robots. Recent lines of research intend to define the standards for the development of electronic systems and applications to facilitate integration and interoperability between agricultural systems, for example, the standard ISO11783 for agricultural machines. The development of agricultural robots implies the same needs and is also expected to provide integration with geographic information systems, due to its wide potential application in agriculture. Thus, this project presents a hierarchical architecture of the systems involved in the process for precision agriculture, and development of algorithms for interoperability between robotic control systems and decision making support system, with applications in agriculture. Based on the results of integrations, such systems can generate specific robotic missions to be inserted in an autonomous agricultural robot, designed according to the ISO11783 standard.

Keywords: Robotic Systems, Systems Integration, precision agriculture, autonomous vehicles

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