

Preface

The 22nd conference on Autonomous Mobile Systems (AMS 2012) will be hosted from September 26 to 28 at the University of Stuttgart, Germany. The conference is organized by the group of Prof. Paul Levi from the IPVS of the University of Stuttgart. For more than 25 years the AMS conference that has been initiated by Prof. Paul Levi in the year 1985 in Karlsruhe provides a platform for idea exchange, scientific discussion, and cooperation for scientists from universities as well as industry. Especially for young scientists the conference is a well-appreciated platform to present their work to the public. Originally, the AMS was focused on German scientists. During the last years it has already opened up for a broader audience by presenting an increasing number of English articles. This year will be the first year with a more international approach. For the first time, all articles and presentations during the conference will be in English. Furthermore, articles were submitted from different countries. The international approach is emphasized by inviting keynote speakers from Japan (Prof. T. Fukuda), the Netherlands (Prof. M. Steinbuch), and Portugal (Prof. B. Cunha). All of them are unique experts in their field and contributed to the research on autonomous mobile systems in many fields. Autonomous mobile systems as well as their practical approach are in the center of interest. The presented selection of articles focuses on approaches from the fields of perception and sensors, mapping and localization, control, navigation, micro- and nanorobotics, Web-enabled robotics, autonomous cars, humanoid robots, system architectures, and the application in autonomous mobile systems.

The organizers of the AMS2012 first of all want to thank the Advisory Board, the external reviewers for the well-thought selection of the articles as well as *infos* (Informatik- Forum Stuttgart e.V.) for the close cooperation. Furthermore, the authors of the articles have to be acknowledged for delivering work of high quality. Besides, the organizers appreciate the work of the publisher Springer Verlag, especially Ms. Glaunsinger who took care of the complete publishing process.

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