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Grant R. Gerhart
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Charles M. Shoemaker
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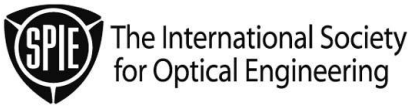

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Introduction

The Unmanned Systems Technology IX Conference consisted of ten sessions during a three-and-a-half-day time period devoted to research, development, and engineering discussions of current robotic technologies relevant to commercial and military applications. Wednesday contained two parallel sessions: the first, titled Self-Organizing Collaborative ISR Robotic Teams, was a joint session with Conference 6578, Defense Transformations and Network-Centric Systems. The second parallel session was Human Robot Interface during the morning and Extreme Mobility in the afternoon. Several papers in the joint session discussed collaborative UGV/UAV/manned vehicle collaborative operations on the future battlefield, describing in some detail the role of network-centric warfare in a collaborative environment.

The Perception session contained a number of papers on novel techniques for positive and negative obstacle detection, avoidance, and negotiation. There was considerable discussion on the sensor performance requirements necessary to autonomously navigate in difficult terrain mobility environments. The subjects ranged from bio-inspired sensor paradigms, ultrawideband radar, GPS and dead reckoning systems, LADAR/LIDAR, and vision-based imaging systems. The Government session contained papers from Canadian and U.S. authors that discussed current robotics technology programs.

Other sessions examined current topics on safety issues for UxVs; standards, metrics, and architectures related to urban search and rescue robots; and intelligent behaviors and learning. The poster session contained eight additional papers on a variety of subjects including mobility analysis of robotic platforms, biologically inspired snake robots, and EOD robot explosives detectors.

We hope you enjoy these proceedings and are able to attend our conference next year.

Grant Gerhart
Doug Gage
Chuck Shoemaker