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Edward M. Carapezza
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Introduction

The interest in unattended sensor technologies and applications has dramatically increased over the past several years. Systems are being developed in support of military, homeland security, intelligence, law enforcement, physical security, and environmental monitoring applications around the world. Government agencies are making significant investments to develop improved unattended sensors and sensor networks. Recently, the United States and other countries have significantly increased the use of unattended ground, sea, and air sensors for homeland security applications, such as land border and coastal shore monitoring. This SPIE conference series is devoted to papers on recent technological advancements in unattended ground, sea, and air sensor technologies and applications.

The conference included five keynote/invited and 53 technical paper presentations organized into 13 sessions covering recent advances in Acoustic, Magnetic, and Multi-modal Sensing; Sensor Networking and Communications; Transients Detection; Modeling, Simulation, and Experimentation; Signal Processing; Enabling Technologies (Sensing, Power, Fusion, etc.); Integrated UGS Systems; and a UGS Users Panel.

Additionally, there were two joint keynote/invited sessions with Conference 6943 and one stand-alone keynote/invited session. The following five keynote/invited talks were given and we sincerely thank all of these speakers for very stimulating and relevant presentations:

- 1) A computational model of the human visual cortex by Dr. James Albus (National Institute of Standards and Technology)
- 2) MEMS and NEMS technologies for sensor applications by Dr. Panos Datskos (Oak Ridge National Laboratory and University of Tennessee)
- 3) Enhanced cyber security with CyLab Technologies by Dr. Pradeep Khosla (Carnegie Mellon University)
- 4) A vision of network-centric ISTAR and the resulting challenges by Mr. Gavin Pearson (Defence Science and Technology Laboratory, United Kingdom)
- 5) Design of trustworthy fielded sensor networks by Dr. Greg Pottie (University of California, Los Angeles)
- 6) Photon-counting passive 3D image sensing and processing for automatic target recognition by Dr. Edward Watson (Air Force Research Laboratory)

We would also like to thank Mr. Michael Kolodny (Army Research Laboratory) for organizing and moderating a very interesting Unattended Sensor User Panel. We especially thank the following eight User Panel participants for making this panel so successful and an excellent wrap-up to this conference: Mr. Terrence Ryan (Marines-MARCORSYSCOM), Mr. Shawn McDonald (Navy-NAVSEA Dahlgren Division), Mr. Bob McCaskey (Special Operations-SOCOM), Mr. Ken Grier and Mr.

Charlie Gates (Defense Intelligence-DIA), Mr. Taylor Miller (Central Command-CENTCOM), Mr. John DellaGiustina (Army-TRADOC) and Mr. Robert O. Nelson (Department of Homeland Security-DHS).

Thanks to those who prepared and presented the technical papers for their contribution to a very successful meeting. The success of this conference is attributed to the participation of the commercial, university, and government research-and-development community as well as the organizing efforts of the diverse and talented program committee.

Thanks to our program committee members for their dedication, time, and assistance in conference planning and organizing and especially to those members who were able to participate as session chairs, including: Jacques Bédard (Defence R&D Canada/Valcartier, Canada), Jeff Heberley (U.S. Army Armament Research, Development and Engineering Center), Todd Hintz (Naval Space and Warfare Center), Alan J. Gray (Defence Science and Technology Laboratory, United Kingdom), Myron E. Hohil (U.S. Army Research, Development and Engineering Command), Michael Kolodny (Army Research Laboratory), Tien Pham (Army Research Laboratory), and Graeme van Voorthuijsen (TNO-FEL, Netherlands).

Very special thanks to two program committee members who worked extra hard to help organize this challenging conference: Tien Pham and Todd Hintz. We could not have had so successful a technical conference without their excellent help and dedication.

Finally, an extra special thanks to all of the conference attendees this year for your interest and enthusiasm. The conference was well attended this year, with a lot of interest in all the sessions. We hope the interest in this technology continues to grow, and that this conference will expand with even greater technical content and significance in future years.

Edward M. Carapezza