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1 Remote Sensing System Applications I
Jeffery J. Puschell, Raytheon Space & Airborne Systems (United States)

2 Remote Sensing System Applications II
Ni-Bin Chang, University of Central Florida (United States)

Introduction

The fifth Remote Sensing System Engineering Conference was held on Monday, 18 August 2014, at the San Diego Convention Center as a part of the SPIE Optics + Photonics and Optical Engineering + Applications Annual Meeting. The goals of the Conference were, first and foremost, to exchange critical and invaluable lessons learned and best practices in the systems engineering of ground-, air-, and space-based remote sensing systems. Additional goals were to share existing and emerging design approaches, engineering methods, tools, and future trends for engineering remote sensing systems.

Chaired by Dr. Philip E. Ardanuy (Raytheon Intelligence & Information Systems) and Dr. Jeffery J. Puschell (Raytheon Space & Airborne Systems), the conference featured 21 diverse and interesting presentations on Remote Sensing System Applications, Active Remote Sensing Systems, and Innovations in Remote Sensing across four oral sessions, plus additional poster presentations in the evening session. The authors were international in breadth, with Asian and European engineers and scientists joining their American systems engineering colleagues for the conference. Topics discussed included: systems engineering best practices and lessons learned; system architecture and design; requirements, performance metrics, and measures of success; modeling and simulation tools and methods; design and integration of distributed architectures; use of commercial assets in future remote sensing systems; bridging and balancing across the science-to-engineering and technologist-to-end-user valleys of "death and lost opportunities"; and the end user, effective data/information/system utilization, and optimum return on investment.

The conference chairs wish to thank the presenters and authors for their fascinating and innovative contributions, which spanned the full diversity of the field. The papers which follow include:

- Persistent observations of the Arctic from highly elliptical orbits using multispectral, wide field of view day-night imagers, by Jeffery Puschell of Raytheon Space & Airborne Systems
- VIIRS reflective solar bands on-orbit calibration coefficient performance using imagery and moderate band intercomparisons, by D. Moyer of The Aerospace Corporation
- Uncooled emissive infrared imager for CubeSats, by Jeffery Puschell of Raytheon Space & Airborne Systems
- Calibration of a system to collect visible-light polarization data for classification of geosynchronous satellites, by Andy Speicher of the University of Denver

- Control architecture for an adaptive electronically steerable flash lidar and associated instruments, by Lyle Ruppert of Ball Aerospace & Technologies Corporation
- Pattern recognition applied to infrared images for early alerts in fog, by Vincent Boucher of Cerema/DTer Ouest
- Appreciation of the traffic effects on the RST by infrared thermography, by Abderrahmen Khalifa of Cerema/DTer Est
- A hybrid algorithm for robust acoustic source localization in noisy and reverberant environments, by Ramesh Rajagopalan of the University of St. Thomas
- An optical positioning sensor by combining optical projection and a virtual camera model, by Benrui Zheng of The University of North Carolina at Charlotte

Philip E. Ardanuy
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