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Geospatial Informatics, Fusion, and Motion Video Analytics V

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Introduction

Geoinformatics is the science and technology that develops and uses information science to address problems in the geosciences. A Geospatial Information System (GIS) describes any information system that collects, integrates, stores, edits, analyzes, shares, and displays geographic information. Geoinformatics and GIS are fundamental to today's information networks and inherently encompass techniques that transform "raw bits and bytes" into "actionable information", also termed InfoFusion. GIS applications incorporate tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data and maps, and present the results of all these operations. In the commercial sector, GIS is used in cartography, remote sensing, land surveying, utility management, geographical strategic natural resource planning, photogrammetric science, geography, urban planning, emergency management, navigation, and localized search engines. For example, defense and security applications, such as Unmanned Ariel Systems and Airport Security Systems, are rapidly transforming from basic sensor collection systems that "take pictures" to a fully capable GIS that incorporates multi-sensor collections, performs advanced processing and correlations in real-time, initiates sensor cross-cueing, and allows multiple users to instantly retrieve and disseminate information. Geoinformatics and GIS is critical to defense and security providers satisfying emerging demands and rapid access to information for situational awareness, forensic back-tracking, and activity-based intelligence (ABI) mission sets.

These proceedings provide the SPIE community with a collection of perspectives, advancements, learning, and new solutions from a range of global industry, government and academic authors. The motivation of this conference track is simple: to expand the awareness of advanced architectures and enabling technologies that address emerging, dynamic, and complex security threats. The solicited technical and scientific papers cover many topics: advancements in Video Analytics, Architectures for Multi-sensing Geospatial Collection, Data Processing Algorithms and Techniques, Information Dissemination, and Information Visualization Solutions that push beyond the scope of the state-of-the-art in industry.

On behalf of the conference chairs—Dr. Shiloh Dockstader, Dr. Peter Doucette, Dr. Kannappan Palaniappan, and Mr. Matthew Pellechia—we hope you find these proceedings useful in the advancement of GIS technologies.

Shiloh Dockstader
Peter Doucette
Kannappan Palaniappan
Matthew F. Pellechia

