

PROCEEDINGS OF SPIE

***Geospatial InfoFusion and Video Analytics IV; and Motion Imagery for ISR and Situational Awareness II***

**Matthew F. Pellechia  
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*Editors*

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# Introduction

*Conference on Geospatial InfoFusion and Video Analytics IV*

Geoinformatics is the science and the 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, 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 Aerial Systems and Airport Security Systems, are rapidly transforming from basic sensor collection systems that "take pictures" to a fully capable GIS that incorporate multi-sensor collections, perform advanced processing and correlations in real-time, initiate sensor cross-cueing, and allow multiple users to instantly retrieve and disseminate information. Geoinformatics and GIS are critical to defense and security providers in order to enable 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. Technical and scientific papers related to 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 are solicited.

We hope you find these proceedings useful in the advancement of GIS technologies.

**Matthew F. Pellechia**  
**Kannappan Palaniappan**  
**Shiloh L. Dockstader**  
**Peter J. Doucette**

