PREFACE

The Joint ISPRS / EARSeL Workshop "Fusion of sensor data, knowledge sources and algorithms for extraction and classification of topographic objects", whose proceedings constitute this publication, brought together specialists in Remote Sensing, Photogrammetry, Image Analysis and GIS to discuss the current state of (semi-)automatic procedures for acquiring geometric and semantic object information from images and digital databases. It dealt mainly with extraction and classification of objects like landcover, forest areas, urban settlements, and specific objects like buildings or roads. Various types of spaceborne and airborne sensors were used (panchromatic, multispectral, hyperspectral and microwave imagery, airborne laser scanners). The goal of the Workshop was to unify activities of working groups with similar and partly overlapping terms of reference, coordinate actions between ISPRS and EARSeL (a regional ISPRS member) and permit in-depth discussions on common significant and hot topics like object models, and analysis methods and strategies with emphasis on the integration of multiple information, knowledge sources and algorithms. The topics referred to basic research or advanced applications of Photogrammetry, Remote Sensing and Computer Vision for geodatabase generation and update. The emphasis was on the development of methods and algorithms for data processing in various application fields and less on data acquisition.

More specifically the workshop dealt with:

- Introduction, overview and concepts of image / data / information fusion and integration
- Tools and methods for multiresolution and multitemporal image fusion
- Exploitation of various object cues like DSMs, spectral information, texture and backscatter anisotropy, and morphology for object extraction and recognition
- Use of GIS and map databases to help the object extraction and recognition process
- New classification methods
- Image to image and vector registration
- Fusion of DEMs from various sensors or with various resolutions
- Applications in forestry

Some of the characteristics of the workshop include:

- Cooperation of ISPRS Working Groups spanning three Commissions and one EARSeL Special Interest Group
- 27 papers from 11 countries presented in 8 Technical Sessions
- Mixture of academia (75%) and research institutes (20%), with little participation from public organisations and private companies
- 68% of the authors have a remote sensing/photogrammetry background, 20% come from electrical engineering, physics and computer science, and 12% from planning, forestry, environmental sciences.
- Publication of the workshop proceedings in the ISPRS Archives Series

The submitted abstracts were evaluated by the scientific committee. The general interest that was expressed makes us confident that the issues that are dealt with in this publication are relevant to a great number of experts and users in the related fields. The papers are interesting, variable, coherent, and focussed on the workshop topics in spite of the different backgrounds of the authors.

From this position we would like to thank all authors for their contribution to the success of the Workshop.

The Editors