PREFACE

Welcome to the ISPRS Workshop "Hyperspectral Sensing meets Machine Learning and Pattern Analysis" (HyperMLPA) held in conjunction with a series of other workshops during the ISPRS Geospatial Week 2019 in Enschede, The Netherlands. HyperMLPA is an interdisciplinary workshop which aims at bringing together people of different communities and disciplines involved in hyperspectral sensing, machine learning, and pattern analysis.

Prospective authors were invited to contribute in sensor development and calibration, to present and publish new datasets, to present innovative methodological advancements, and to share the latest results and findings of application-oriented work. Topics include, but are not limited to:

- Sensor Design and Calibration
  - Sensor and system calibration and validation
  - Error modeling
  - Data evaluation

- Datasets
  - New hyperspectral benchmark datasets
  - Ground-based, airborne and spaceborne data acquisition
  - Datasets acquired in controlled environments (e.g. in a laboratory) vs. datasets acquired "in the wild"

- Methodology
  - Feature extraction
  - Feature selection / dimensionality reduction
  - Spectral unmixing
  - Data fusion
  - Change detection
  - Classification, segmentation and regression

- Applications
  - Land cover and land use classification
  - Material classification
  - Biodiversity assessment
  - Estimation of geo- and bio-physical parameters
  - Fusion of hyperspectral, geo- and bio-physical parameters
  - Analysis of spatial and temporal patterns

HyperMLPA is organized by four ISPRS Working Groups and one related ISPRS Intercommission Working Group:

- WG I/1   – Multi- and Hyperspectral Sensing
- WG I/10   – Sensor Systems Verification, Benchmarks, Evaluation
- WG II/4   – 3D Scene Reconstruction and Analysis
- WG III/4   – Hyperspectral Image Processing
- ICWG II/III – Pattern Analysis in Remote Sensing

In total, we received three full paper submissions and 14 abstract submissions. The full paper submissions entered a strict double-blind peer-review process. Each paper was checked by three reviewers. As a result, two full paper submissions were accepted for publication in the *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, corresponding to an acceptance rate of about 67%. Among the remaining full paper submission and the abstract submissions, a total number of 12 submissions were accepted for publication in the *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*.

The program of the symposium is organized in three technical sessions and one poster session. These sessions are complemented by one keynote:

Jocelyn Chanussot, Grenoble Institute of Technology (Grenoble INP):
Deep learning for the processing of hyperspectral data: over a decade of history

We wish to thank all authors and the keynote speaker for their contribution to HyperMLPA. Furthermore, we thank the members of the scientific committee for their excellent job in reviewing the received submissions and the members of the local organizing committee for their great support.

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