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## Report on the IEEE GRSS/ISPRS Workshop Earth Vision @ CVPR 2015 (Boston, MA)

One of the missions of the Image Analysis and Data Fusion Technical Committee (IADF TC) of the IEEE GRSS is to create synergies between the remote sensing data analysis and the pattern recognition/machine learning/computer vision communities. This ought not to be a unidirectional relationship (learning and vision feeding remote sensing) but must be a real synergy, where both communities are aware of each other and interact closely. With this spirit, the IADF TC, in collaboration with the ISPRS Commission III (Photogrammetric Computer Vision and Image Analysis), has organized a joint workshop about the interfaces and challenges between computer vision and remote sensing. Such workshop was held in the most prestigious international conference in computer vision: the IEEE Computer Vision and Pattern Recognition (CVPR) conference.

Through this workshop, the organizers aimed at fostering collaborations between the two communities

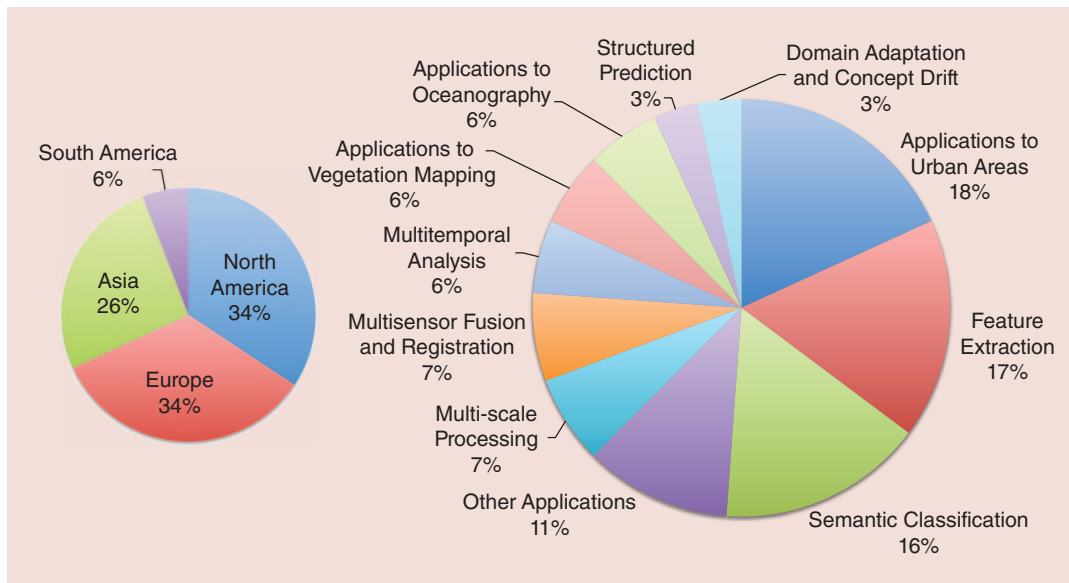


**IMAGE ANALYSIS  
AND DATA FUSION  
TECHNICAL COMMITTEE**

(Earth Observation and Vision), on the one hand to boost automated interpretation of EO data and, on the other hand, to raise the awareness and interest in computer vision for the challenges of remote sensing data analysis.

We received 34 full papers (8 pages + 1 page of references) and proceeded with a double blind review process. The provenance of the authors and the main keywords of the papers are reported in Fig. 1. Each paper was reviewed by 2 to 3 reviewers (<http://www.grss-ieee.org/earthvision2015/people.html>), coming from either the remote sensing or computer vision communities, and finally 11 papers were accepted into the workshop. The acceptance rate was 32%.

The workshop took place in the morning of Friday, June 12, 2015. Two keynote speakers represented the interface between the two communities: Gustau Camps-Valls from the University of València, Spain, talked about retrieval of biogeophysical parameters with remote sensing and kernel methods – thus bringing the EO view on original problems for computer vision – while Aleksey Golovinskiy from



**FIGURE 1.** Overview of the provenance and of the main topics represented in the submissions to EarthVision 2015.

Google presented the processing chain for the 3D reconstruction in Google Earth / Google Maps and its improvements – thus bringing the big data and 3D reconstruction views together.

Three papers were awarded with a best paper prize. A committee composed of G. Moser, J. D. Wegner, K. Schindler and J. Zerubia awarded the prizes to:

- ▶ M. Volpi and V. Ferrari, for the paper *Semantic segmentation of urban scenes by learning local class interactions* (Best paper prize).
- ▶ P. Polewski, W. Yao, M. Heurich, P. Krzystek, and U. Stilla, for the paper *Active learning approach to detecting standing dead trees from ALS point clouds fused with aerial infrared imagery* (Best paper prize).

- ▶ M. Vakalopoulou, K. Karantzas, N. Komodakis, and N. Paragios, for the paper *Simultaneous registration and change detection in multi-temporal, very high resolution remote sensing data* (Honorable mention).

The awardees received a certificate of recognition and a cash prize kindly offered by IEEE GRSS. The two best-ranked papers were also invited to give an oral presentation during the workshop.

All the papers accepted in EarthVision are made available in open access on the EarthVision website's program page (<http://www.grss-ieee.org/earthvision2015/program.html>). G. Camps-Valls also made available the slides of his keynote speech: they are downloadable from the same page. We hope that these high quality pieces of research will inspire more



**FIGURE 2.** Organizers, keynote speakers and awardees of EarthVision 2015. From left to right: J. Zerubia (Inria Sophia Antipolis Méditerranée), D. Tuia (University of Zurich), M. Vakalopoulou (Technical University Athens), M. Volpi (University of Edinburgh), P. Polewski (TUM Munich), A. Golovinskiy (Google), G. Camps-Valls (University of València), J. D. Wegner (ETH Zurich).

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researchers to work at the interface between computer vision and remote sensing.

### ACKNOWLEDGMENT

The workshop Chairs wish to thank the IEEE GRSS for financially supporting the organization and the prizes of EarthVision within the Strategic Initiatives 2015, and the Computer Vision Foundation (<http://www.cv-foundation.org>) for providing all of the accepted papers in open access.

A special issue of IEEE JSTARS – named “Geovision” – is also open for submissions with deadline on September 30, 2015. The submissions are not only limited to EarthVision papers. Please consult the call for papers for this special issue here: [http://www.grss-ieee.org/wp-content/uploads/2015/05/GEOVISION\\_CFP.pdf](http://www.grss-ieee.org/wp-content/uploads/2015/05/GEOVISION_CFP.pdf)

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