

1st Announcement and Call for Papers

ISPRS Workshop on Semantic Scene Analysis and 3D Reconstruction from Images and Image Sequences (Semantics3D)

Part of the **ISPRS Geospatial Week 2019**

10-11 June, 2019

Enschede, The Netherlands

<http://www.gsw2019.org>

Automated 3D reconstruction and extraction of semantic information from images and image sequences is an important topic of research in Photogrammetry, Remote Sensing, GIS, and Computer Vision. Semantics3D is a workshop that follows a series of earlier ISPRS events related to photogrammetric 3D reconstruction (PhotoGA), automatic object detection for city models, road databases and traffic analysis (CMRT), and image sequence analysis (ISA). The workshop will bring together experts from the above-mentioned fields to discuss recent developments, the potential of various data sources, and future trends in 3D reconstruction and information extraction from imagery. Its focus is on methodological research. The workshop will be part of the ISPRS Geospatial Week 2019 and is hosted by the University of Twente in parallel with a number of related geospatial workshops. The event will be held as a two-day single track workshop of oral presentations and poster sessions.

Terms of Reference

- Feature extraction, stereo/multi-view sparse matching, dense image matching
- 3D data acquisition and surface reconstruction
- Automatic detection and 3D reconstruction of objects using data from terrestrial, airborne or satellite sensors
- Supervised classification techniques for applications to 3D scenes, in particular deep learning for 3D scene analysis
- Large-scale scene analysis and machine learning
- Classification and semantic segmentation of point clouds and surface meshes with or without radiometric information
- Context-based classification techniques
- Object detection, recognition and 3D reconstruction in the context of robotics or autonomous driving.
- Integration of data from multiple viewpoints or multiple sensors for automated object detection and reconstruction
- Integration of existing interpreted data such as existing maps or urban GIS for object detection and reconstruction
- Methods for the generation and update of high-resolution 3D city models and road databases
- Automatic texturing of 3D city models
- Object detection and tracking for applications in robotics, autonomous driving and mobile mapping
- Dynamic scene understanding
- Integration of images, motion and vehicle models

- Security/surveillance
- Evaluation of performance, reliability, robustness, and generality of methods

Submission of papers:

Authors who wish to give an oral presentation need to submit full papers for a double-blind peer review process. The papers should be prepared according to the ISPRS guidelines for preparing manuscripts and should not exceed 8 pages. Accepted papers will appear in a designated volume of the *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*.

Authors who wish to give a poster presentation can submit an extended abstract for a peer review process. Accepted papers will appear in a designated volume of the *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*.

Important dates:

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| 17 January, 2019 | Full paper submission (Annals) |
| 4 February, 2019 | Extended abstract submission (Archives) |
| 1 March, 2019 | Abstract author notification |
| 8 March, 2019 | Full paper Author notification |
| 2 April, 2019 | Camera ready paper submission |
| 10-14 June, 2019: | Geospatial week |

Scientific Committee:

tba

Supporting ISPRS Working Groups:

- WG II/2 Point Cloud Generation
(<http://www2.isprs.org/commissions/comm2/wg2.html>)
- WGII/4 3D Scene Reconstruction and Analysis
(<http://www2.isprs.org/commissions/comm2/wg4.html>)
- WGII/5 Dynamic Scene Analysis
(<http://www2.isprs.org/commissions/comm2/wg5.html>)
- WGII/6 Large-scale Machine Learning for Geospatial Data Analysis
(<http://www2.isprs.org/commissions/comm2/wg6.html>)
- ICWG II/III Pattern Recognition in Remote Sensing
(<http://www2.isprs.org/commissions/comm2/icwg-2-3.html>)