PCV 2014 – Photogrammetric Computer Vision

The 11th ISPRS Technical Commission III Midterm Symposium "Photogrammetric Computer Vision" was held in Zurich, Switzerland from September 5th to 7th, 2014. Researchers presented their work during two poster sessions and eight single track oral sessions to more than 200 PCV participants in the main building of ETH Zurich. Prior to the conference 27 of 48 full-paper submissions for the ISPRS Annals were accepted and 17 were transferred to the ISPRS Archives. Furthermore, 62 abstracts were submitted for the ISPRS Archives and 49 of them were also accepted. The symposium took place in conjunction with the European Conference on Computer Vision, also held in Zurich from September 8th to 11th. The opportunity for interaction was strongly supported by the participants, with > 60% of all PCV participants choosing the joint registration for both events. Among the attendees were three ISPRS council members: President Chen Jun, Secretary General Christian Heipke, and Congress Director Lena Halounova.

All accepted Annals papers were presented in single-track oral sessions, and the accepted Archive papers were presented as posters. Further to presentations of contributed papers there were two keynote talks, highlighting image-based metrology in related scientific fields: "Towards real-time, dense tracking, reconstruction and scene understanding" by Prof. Andrew Davison from Imperial College London emphasized real-time photogrammetric orientation and surface reconstruction from a robotics perspective; "Photometric reconstruction in the wild" by Prof. Michael Goesele from TU Darmstadt introduced recent developments in 3D reconstruction based on inverse models of light transport and shading.

During the PCV conference the two gold sponsors Leica Geosystems and Trimble also were present with exhibition stands. In addition to these two, a number of other companies also financially supported the meeting, as did the Swiss Society of Photogrammetry and Remote Sensing (SGPF/SSPT, ordinary member for Switzerland) and the Swiss Academy of Natural Sciences, through its Commission for Remote Sensing.

Special sessions included the opening and award ceremony, an ice-breaker on Friday evening at the meeting location in the historic ETH main building, and a social event on Saturday, held in Seebad Enge directly on Lake Zurich. The overwhelming majority of all conference participants took part, and, together with the good weather on Saturday evening, made the barbecue on the floating bathing platform a highlight of the conference.

From the papers most highly rated in the review process a committee consisting of secretary general Christian Heipke, TC V president Fabio Remondino and TC III president Konrad Schindler selected the PCV best papers. The PCV best paper prize went to "Detection of fallen trees in ALS point clouds by learning the Normalized Cut similarity function from simulated samples" by P. Polewski, W. Yao, M. Heurich, P. Krzystek and U. Stilla. Two more papers received honorable mentions: "Semantic 3D scene interpretation: a framework combining optimal neighborhood size selection with relevant features" by M. Weinmann, C. Mallet and B. Jutzi; and "A group-LASSO active set strategy for multiclass hyperspectral image classification" by D. Tuia, N. Courty and R. Flamary. Extended versions of all three award papers were invited to a special section of the ISPRS Journal of Photogrammetry and Remote Sensing. Their topics also underline a trend in the overall program towards image understanding and semantic analysis of photogrammetric data.

On the last day of the conference there was a special session about the "Tracking and Imaging Challenge", initiated by members of technical commissions II and III, and supported by the ISPRS scientific initiative. Six projects were submitted which fulfilled the requirements to combine two typically separately analyzed forms of data, trajectory data sets and image data sets. After the presentation a jury decided on the winners of the challenge: The first prize went to D. Rajamohan, B. Ganu and K. S. Rajan for "Road Condition and Texture

Estimation by Fusing GPS, Accelerometer and Camera Data", the second prize to S. Hosseiny Alamdary, P-L. Lai and A. Yilmaz for "Merging Images, Trajectory, and Point Clouds for 3D Object Tracking".

During the symposium, the ISPRS Technical Commission III board meeting was held to review the working group activities over the past two years, and plan further activities up until the ISPRS congress in Prague 2016. Two main topics were the revision of the ISPRS commission structure, and the planning of flagship meetings for 2015, in particular the Geospatial Week 2015 as well as the now combined PIA15/ HRIGI15 meeting.

We thank everybody who contributed to make PCV 2014 a success, most notably the local coordinator Monique Berger, the ECCV team who took care of many shared logistic aspects, the contacts at Copernicus for helping with the publication process, all area chairs and reviewers, our sponsors, and the volunteers on site.

Wilfried Hartmann (TC III secretary) and

Konrad Schindler (TC III president, conference director)