

## Announcement

### The U. V. Helava Award – Best Paper Volumes 123-134 (2017)

The U.V. Helava Award, sponsored by Elsevier B.V. and Leica Geosystems AG, is a prestigious ISPRS Award that was established in 1998 to encourage and stimulate submission of high quality scientific papers by individual authors or groups to the ISPRS Journal of Photogrammetry and Remote Sensing, to promote and advertise the Journal, and to honour the outstanding contributions of Dr. Uuno V. Helava to research and development in photogrammetry and remote sensing.

The Award is presented to authors of the best paper, written in English and published exclusively in the ISPRS Journal of Photogrammetry and Remote Sensing during the four-year period from January of a Congress year, to December of the year prior to the next Congress. The Award consists of a monetary grant of SFr. 10,000 and a plaque. A five-member Jury, comprising experts of high scientific standing, whose expertise covers the main topics included in the scope of the Journal, evaluates the papers. For each year of the four-year evaluation period, the best paper is selected, and among these four papers, the one to receive the U.V. Helava Award will be selected.

The U.V. Helava Award will be presented at the 24<sup>th</sup> ISPRS Congress in Nice, France, June 28<sup>th</sup> to July 4<sup>th</sup> 2020. The Jury appointed by the ISPRS Council evaluated papers from volumes 123-134 (2017) and announces its decision for the Best Paper. The winner of the 2017 Best Paper Award is:

**“Bundle adjustment with raw inertial observations in UAV applications” by Davide Antonio Cucci, Martin Rehak and Jan Skaloud** (École Polytechnique Fédérale de Lausanne, Switzerland)

published in volume 130, August 2017, pp. 1-12,  
<https://www.sciencedirect.com/science/article/pii/S0924271617301387>



Davide Antonio  
Cucci



Martin Rehak



Jan Skaloud

#### **Jury’s rationale for the paper selection**

This paper presents a significant new contribution to integrated sensor orientation. It overcomes problems encountered with the traditional, Kalman filter approach for deriving exterior orientation parameter estimates from integrated GNSS/IMU systems used for bundle adjustment. The authors’ novel approach incorporates raw inertial observations into the bundle solution as a dynamic network adjustment. Their tight fusion method allows rigorous propagation of error models and properly treats correlations between observations. The success of their approach is experimentally demonstrated with real UAV data and is shown to be superior to the conventional approach for incorporating GNSS/IMU observations.

On behalf of the ISPRS and the U.V. Helava Award Jury, I would like to congratulate the authors for this distinction and thank them for their contribution. I also thank the sponsors of the Award and the Jury members for their thorough evaluations.

*Derek Lichti*  
*Editor-in-Chief*

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