

The Fourth Hyperspectral Video Tracking Challenge

December 9 – December 11 2024, Helsinki, Finland



CALL FOR PARTICIPATION

<https://www.hsitracking.com/>

Object tracking is an important research topic in computer vision and pattern recognition. Despite its success in research and practice, tracking in grayscale or color videos has its intrinsic limitations in depicting physical properties of targets, especially reflectance of materials. It makes trackers vulnerable in complex scenarios with cluttered background and significant object shape changes. This problem can be effectively addressed by object tracking in hyperspectral videos which provide joint spectral, spatial, and temporal information, enabling the tracking system to perceive the materials besides the shape, texture, and semantic relationship of objects.

The goal of this contest is to boost the research on hyperspectral object tracking. The contest is organized in conjunction with the 14th Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS). A special session will be organized for all accepted papers which will also be included in the WHISPERS proceedings to be published in the IEEE Xplore.

A frame-by-frame labelled dataset with 182 training videos and 89 validation videos is provided. Moreover, we also provide 75 unlabeled hyperspectral videos as a testing set for ranking purpose. Each video contains hyperspectral data and false-color data generated from the hyperspectral data. We also provide the codes and results of a number of tracking methods as baselines.

Three prizes of 1500, 1000 and 500 Euros will be awarded to the top three teams.

Sponsor



All participants are encouraged to submit a paper to WHISPERS 2024. Please select "the challenge : hyperspectral object tracking challenge" track in the paper review system. It is mandatory for the top four teams to submit and present a paper in the WHISPERS. All participants shall also submit the tracking results on the unlabeled testing set to the contest organizer.

Key Dates

Test dataset release:	September 1, 2024
Submission deadline:	September 13, 2024
Outcome announcement:	October 1, 2024

Paper Submission:

<https://www.ieee-whispers.com/paper-submission/>

Result submission:

Email a zip file to hsotracking@gmail.com

Organizers

Fengchao Xiong, *Nanjing University of Science and Technology, China*

Jun Zhou, *Griffith University, Australia*

Hiep Quang Luong, *Gent University, Belgium*

Wouter Charle, *imec, Belgium*

Mina Zahiri, *imec, Belgium*

Yanfei Zhong, *Wuhan University, China*

Pedram Ghamisi, *Helmholtz-Zentrum Dresden-Rossendorf, Germany; IARAI, Austria*