

# The Third Hyperspectral Video Tracking Challenge

October 31 – November 2 2023, Athens, Greece



## 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 13th 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 95 training videos and 77 validation videos is provided. Moreover, we also provide 85 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 required to submit a report to the WHISPERS paper review system under the "challenge: hyperspectral object tracking challenge" track. All participants shall also submit the tracking results on the unlabeled testing set to the contest organizer.

### Key Dates

Test dataset release: August 11, 2023  
Submission deadline: August 21, 2023  
Outcome announcement: August 30, 2023

Paper Submission:

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

Result submission:

Email a zip file to [hsotracking@gmail.com](mailto:hsotracking@gmail.com)

### Organizers

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

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