We invite submissions for the IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM) Special Issue on Human Recognition in Aerial Surveillance.

**CALL FOR PAPERS**

IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM)

**Special Issue on Human Recognition in Aerial Surveillance**

**Submission Deadline: 15 December 2026**

Targeted Publication: Q4 2027

Paper submission: https://ieee.atyponrex.com/journal/tbiom

## Motivation

Aerial person recognition has become an important research topic at the intersection of computer vision and biometrics, driven by the growing use of unmanned aerial vehicles (UAVs) in search-and-rescue, public safety, humanitarian monitoring, and border security. Despite advances in ground-based biometric recognition, state-of-the-art methods degrade substantially on aerial data: face recognition accuracy drops by 30% to 50%, and person re-identification loses 15% to 25% mAP in aerial-to-ground cross-view scenarios. Recognizing people at altitude, from extreme viewpoints, and at large standoff distances remains an open problem for the biometrics community.

Interest in the topic is growing quickly. The IARPA BRIAR program (approximately US$30M) targets biometric recognition at altitude and range, more than 30 papers have appeared at CVPR, ICCV, and ECCV in 2023 and 2024 alone, and major datasets, including BRIAR, UAV-Human, AG-ReID.v2, AG-VPReID, DroneGait, AerialGait, and DetReIDX, have been released between 2021 and 2025. No prior T-BIOM special issue has focused specifically on biometric recognition under aerial and long-range sensing conditions, and this special issue is the first dedicated T-BIOM forum on the topic.

This special issue is open to the entire research community. We welcome original submissions from all authors on any of the topics listed below. Papers may be submitted through either of two tracks (see Submission Tracks): an open track for new work, and an extension track for substantially extended versions of papers from recent workshops on aerial and long-range human recognition. No affiliation with any workshop, project, or challenge is required. Both tracks follow the same review process and are held to the same standard of acceptance.

## Topics of Interest

The topics of interest of the special issue include, but are not limited to:

- Aerial face recognition at altitude and range
- Aerial gait and whole-body biometric recognition
- Aerial and long-range person re-identification, including video-based and extreme-distance recognition, and cross-view matching
- Aerial hand geometry and other emerging aerial biometric modalities
- Aerial soft-biometric analysis
- Aerial human action recognition and behavior analysis
- Aerial crowd analysis and group activity recognition
- Multi-modal fusion for aerial person recognition (RGB, thermal, LiDAR)
- Domain adaptation and transfer learning from ground to aerial views
- Generative AI and foundation models for aerial person analysis
- Novel datasets, benchmarks, and evaluation protocols
- Privacy-preserving techniques and ethical considerations

## Submission Tracks

Submissions are accepted through two tracks. Both tracks use the same submission portal and article type, follow the same T-BIOM peer-review process, and are held to the same standard of acceptance.

**Track 1: Open submissions (main track)**

Open to all authors. Original, previously unpublished work on any of the topics above. No affiliation with any workshop, project, or challenge is required, and the majority of the special issue is expected to come from this track.

**Track 2: Extended versions of workshop papers**

Substantially extended versions of papers presented at AERO-HPR, the 1st Workshop on Human Perception and Recognition in Aerial Surveillance (IEEE/CVF CVPR 2026, Denver, 3 June 2026, https://aero-hpr.github.io/), or at VReID-XFD, the 1st Workshop on Video-based Human Recognition at Extreme Far Distances (IEEE/CVF WACV 2026, Tucson, March 2026, https://www.it.ubi.pt/VReID-XFD/). An extended version must cite the original workshop paper and contain at least 30% new material, such as expanded experiments, enhanced algorithms, or additional theoretical analysis, in line with T-BIOM policy.

## Important Dates

| Milestone | Date |
|---|---|
| **Author Portal opens** | 1 August 2026 (anticipated) |
| **Submission deadline** | 15 December 2026 |
| **First-round review decisions** | March 2027 |
| **Revised submissions due** | May 2027 |
| **Final review decisions** | July 2027 |
| **Camera-ready papers due** | August 2027 |
| **Publication** | Q4 2027 |

## Paper Submission

Papers should be submitted through the T-BIOM submission portal (https://ieee.atyponrex.com/journal/tbiom) before the deadline, using the IEEE T-BIOM journal templates and selecting the special-issue article type: "AERO-HPR". Authors of both tracks select the same article type.

All submissions, in either track, will undergo the standard T-BIOM peer-review process. Submissions authored by guest editors will be handled exclusively by the Editor-in-Chief.

## Guest Editors

- Kien Nguyen, Queensland University of Technology, Australia
- Arun Ross, Michigan State University, United States
- Xiaoming Liu, University of North Carolina at Chapel Hill, United States
- Clinton Fookes, Queensland University of Technology, Australia
- Hugo Proença, University of Beira Interior, Portugal
- Vitomir Štruc, University of Ljubljana, Slovenia
- Feng Liu, Drexel University, United States
- Huy Nguyen, Queensland University of Technology, Australia
- Arnold Wiliem, Shield AI, Australia
- Kailash A. Hambarde, Instituto de Telecomunicações / University of Beira Interior, Portugal

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