

IEEE SPS 5-Minute Video Clip Contest (5-MICC) at ICASSP 2023  
Call for Videos: Secure Multimodal Behaviometrics

The Signal Processing Society is pleased to announce the 5-Minute Video Clip Contest (5-MICC) at ICASSP in the Greek Island of Rhodes, June 04 - 10, 2023.

The 5-MICC aims to encourage the signal processing community to explain concepts in an innovative way using a video. The winners will be selected based on the quality of their project, novelty, clarity of presentation, and creativity.

The topic chosen this year is multimodal biometrics and behavior analysis, also known as multimodal **behavioral biometrics or behaviometrics**. Facial biometrics have recently gained popularity thanks to the development of accurate recognition models and the introduction of powerful and compact cameras, such as those in smartphones. Facial motion, though less used, is known to contain behavior information related to age and identity, while speech is a widely used biometric. This competition aims to highlight the potential of signal processing within a multimodal framework to design trustworthy, secured multimodal behaviometrics that can operate in everyday life.

The submitted videos can cover any theoretical and practical aspects of how **signal processing** can be used to exploit the strong **connection between facial dynamics (biometrics + behavior analysis) and speech** to develop behaviometrics that are difficult to spoof and can be cancellable if compromised. The scope includes solutions for new multimodal behaviometrics, their applications, and multimodal behaviometrics authentication systems, for example, cancellable biometrics, de-identification techniques, deep-fake video detection, and presentation attack detection.

The contest is open for submissions from IEEE SPS members, including undergraduate and graduate students of all majors, as well as researchers from all over the world. Each team must be composed of:

- i. One faculty member (the Supervisor)
- ii. At most one graduate student (the Tutor),
- iii. At least three but no more than five undergraduate students. At least three undergraduate team members must be either IEEE SPS student members or SPS members by the time they submit the full 5-minute video (see below).

## **Organizers – Information Forensics and Security Technical Committee:**

Victor Sanchez, University of Warwick, UK

Tanaya Guha, University of Glasgow, UK

### **There will be three stages for the call**

#### **1. Submission of 30-Second Trailers:**

Submission deadline: **March 14<sup>th</sup>, 2023**

Announcement of the best 10 teams: **March 19<sup>th</sup>, 2023**

Each submission should include a report, in the form of an IEEE conference paper, up to 2 pages, on the main idea/concept of the full video that will be submitted with the related written script. The selected best 10 teams will be identified and invited to send the final 5-minute video to participate in the final competition.

#### **2. Submission of the Full 5-Minute Video:**

Submission deadline: **April 9<sup>th</sup>, 2023**

Announcement of the 3 best videos: **April 14<sup>th</sup>, 2023**

Three finalist teams will be selected by the organizing TC.

#### **3. Final Contest at ICASP 2023 in Rhode Island, Greece**

Conference dates: June 4-9, 2023

Videos available on public voting platform: **1 May - 5 June, 2023**. The final ranking will be decided by the judging panel, also taking into account the popular vote. The winners and final team ranking will be announced during the conference.

## **Team Eligibility Criteria:**

### Team Eligibility:

- Team composition: Each team **must** be composed of: (i) One faculty member (the Supervisor); (ii) At most one graduate student (the Tutor), and; (iii) At least 3 but no more than 10 undergraduates. *At least three of the undergraduate team members must be SPS student members.*
- Further definitions of each position are as follows:
  - Faculty (Supervisor): Postdocs and research associates are not considered as faculty members.
  - Graduate Student (Tutor): A graduate student is a student having earned at least a 4-year University degree at the time of submission.
  - Undergraduate: An undergraduate student is a student without a 4-year degree.
- Students receiving travel grant and prize payments **must** be an active SPS member at time of team formation. Signal Processing Society membership can be added [here](#).

### Team ineligibility in addition to the above:

- Teams that are composed with 50% or more of its members being students who have previously participated on a finalist team of another SPS competition within the last calendar year are not eligible.
- Teams with the exact same member composition of a previously placed team in the top 3 of another SPS competition within the last calendar year are not eligible.
- Team members who have placed in the top three of another SPS competition during the same calendar year, i.e. members from the 3 finalist teams of the 2023 SP Cup or 5-MICC (at ICASSP) will not be eligible to participate in the 2023 VIP Cup or 5-MICC (at ICIP).
- Team members cannot simultaneously participate in more than one competition at the same time, i.e. the SP Cup and 5-MICC at ICASSP.

*Please note: The work submitted by teams participating in the Signal Processing Cup is made available to MathWorks Inc. who is sponsoring the competition. In addition, the work submitted by the final three teams will be available publicly to anyone who attends the final competition at the International Conference on Acoustics, Speech, and Signal Processing (ICASSP). For all SPS competitions, the competition results may be announced on the IEEE Signal Processing Society website, newsletter, and IEEE Signal Processing Magazine.*

**Judging Criteria:** (Suggest 5 sets of judging criteria as mentioned below.)

The judging for the final phase of the competition held live at the conference will be based on five equally weighted criteria. Each of the three finalist teams will be scored on the five criteria and the team with the highest score will place 1st, the team with the second highest score will place 2nd, and the team with the third highest score will place 3rd in the competition.

The five equally weighted criteria are:

1. Innovation of the proposed approach
2. Performance of the first stage competition (by choosing the best submission, score as indicated on the website)
3. Performance of the last submission (second phase held live at the conference) separately on the dataset(s)
4. Quality and clarity of the final report
5. Quality and clarity of the presentation

Each criterion is scored with a 1, 2, or 3; the best team in each criterion will receive 3 points, the second best team will receive 2 points, and the third best team will receive 1 point. The final winning rankings will be based on the highest points awarded from the five criteria during judge deliberations at the end of the competition. Final rankings are ultimately decided by the judges at their discretion.

## **Judge Participation**

### **Conflict of Interest**

Any judge or team supervisor participating in the competition must sign a Conflict-of-Interest Form agreeing to the following key points. Full information is on the Conflict-of-Interest Form.

1. Conflict of Interest concerns shall be disclosed and addressed in accordance with IEEE Policies 9.9 A, B, and C and IEEE Policy 4.4.H. - Eligibility and Process Limitations. Judges-involved at any stage of the team rankings/scoring process for an SP competition shall be ineligible to judge/vote on the outcome of team rankings for the competition in which the conflict exists. Any real and perceived conflict of interest shall be avoided. Conflict of interest shall be defined as any relationships, professional or otherwise, that can affect impartiality and objectivity. Such relationships include, but are not limited to the below list. This list also applies

- a. faculty supervisor/student,
- b. faculty supervisor/post-doc,
- c. manager/employee,
- d. shared institutional affiliations,
- e. recent (less than five years) research collaborations or joint authorship,
- f. judge/team supervisor
- g. In the case of a conflict of interest, the judge should neither listen to nor speak in the discussion and should not vote on the team scoring/ranking process.

In our SPS Policies and Procedures (<https://signalprocessingsociety.org/volunteers/policy-and-procedures-manual>)

**The IEEE Conflict of Interest form must be completed before participating in the competition. The Conflict of Interest form can be completed at the following link:**

<https://www.ieee.org/about/compliance/conflict-of-interest/coiandpob.html>

### **Conflict Resolution Process**

The Society leadership will create an ad hoc committee to handle each matter requiring conflict resolution.

1. **Composition.** The composition of each ad hoc committee will include area experts. The experts should be chosen based on mediation experience or subject area experience. All members of the ad hoc committee should be non-conflicted, e.g., no prior involvement in the situation, no collegial work relationship, etc. The committee may be augmented with the agreement of all members of the ad hoc committee. The committee will select its own chair.

2. **Process.** During the first meeting of the ad hoc committee, the committee shall create a timeline detailing the conflict resolution process, as well as determine any operational rules for the ad hoc committee's operation (e.g., length of final report; length of statement of dissent, etc.) The individual who brought the conflict matter forward shall be informed of the timeline. All discussions and information presented to the ad hoc committee shall be handled in a confidential manner.

Decisions need not be unanimous; final outcomes may be determined by majority vote of the

membership of the ad hoc committee. Dissenting members may include their dissenting opinion as part of the report; the length of such dissent will be determined as part of the committee's operational rules.

After the ad hoc committee has determined its final ruling, the ad hoc committee chair shall be responsible for preparing a short report documenting the committee's findings. The report shall be provided to the individual who brought the conflict matter forward.

3. **Appeal.** If the individual who brought the conflict matter forward feels that the matter has not been adequately resolved by the ad hoc committee at the Society level, the individual may escalate the matter further to TAB or IEEE. The ad hoc committee report shall be shared with TAB and/or IEEE.