

EXPRESSION OF INTEREST FORM

This Expression of Interest (EOI) document has been prepared to enable researchers of Istanbul Technical University (ITU) to be rapidly and effectively included in existing and potential consortia, primarily within the scope of Horizon Europe and other International Programmes.

The information collected through this form will be used by the ITU International Projects Office for the following purposes:

- Matching researchers with ongoing consortium searches,
- Communication with international project partners,
- Targeted invitations and information dissemination for relevant calls.

Contact Person/Scientist in charge Name <i>(data of the principal investigator of the research group/lab or scientific supervisor)</i>	TAYFUN
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Laboratory /Department /Institute Name /Centre /	Advanced Research on Intelligent Systems Laboratory (ARIS LAB)/ Department of Electronics and Communication Engineering / Faculty of Electrical and Electronics Engineering
Brief description of the Centre/Research Group <i>(Please provide a brief description of your research group or organisational unit, including research infrastructure, laboratory facilities, team size and industry collaborations.)</i>	<p>Our laboratory specializes in several areas of signal processing, including image and video processing, computer vision, acoustic and bioacoustic signal processing, noise analysis, deep learning, and machine learning. The lab is equipped with computing infrastructure for data analysis and algorithm development, supporting experimental research in artificial intelligence and signal processing. The team consists of PhD, MSc, and undergraduate researchers who work collaboratively on scientific projects and publications.</p> <p>Prof. Tayfun AKGÜL is the founder and the head of ARIS LAB, a research environment that supports interdisciplinary studies and student-led research. In addition to academic activities, the group aims to establish collaborations with industry and research institutions, enabling the development of practical solutions and the transfer of research outcomes to real-world applications.</p>
Address	Istanbul Technical University, Faculty of Electrical and Electronics Engineering, Ayazağa Campus, Maslak, 34469 Sarıyer/İstanbul Room: ARIS LAB - 8306
Research Area <i>(Please provide 5–10 keywords that best describe your research areas and expertise.)</i>	Image/Video Processing, Computer Vision, Acoustic/Seismic/Bioacoustic Signal Processing, Array Signal Processing, Noise Analysis, Deep Learning, Machine Learning, Forensic.
Please list your relevant previous projects, indicating the programme, project name, year and role.	<p>EPICS (Engineering Projects in Community Service) in IEEE Projects:</p> <ul style="list-style-type: none"> • Snapping Shrimps in Northern Aegean Sea: Acoustic Behavior and the Impact of Noise on the Species (Oct 2024 - Oct 2025) • Smart Monitoring of Fruit Trees: The case of olive trees (Apr 2024 - Apr 2025) • Analysis and Modeling of Underwater Sections in the Turkish Straits System (Mar 2021 - Dec 2023)

<p>Proposed Project Idea or Area of Interest: (If applicable, please briefly outline a concept idea, the problem you aim to address, or your specific area of interest.)</p>	<p>The laboratory is interested in research on advanced signal processing and computer vision applications, particularly in underwater acoustic, imaging and monitoring, drone detection, and hybrid optical–thermal image and video analysis. The aim is to develop robust algorithms using machine learning and deep learning techniques for reliable object detection, tracking, and scene understanding in challenging environments.</p> <p>The group focuses on designing systems that can effectively utilize multimodal data, such as optical and thermal imagery, audio-visual data, to improve detection and monitoring performance. These research directions have potential applications in security, environmental monitoring, surveillance, and autonomous sensing systems.</p>
<p>Potential Contributions to Projects</p>	<p><input checked="" type="checkbox"/> Scientific / technical research <input checked="" type="checkbox"/> Methodology development <input checked="" type="checkbox"/> Modelling / simulation <input checked="" type="checkbox"/> Data analysis / artificial intelligence <input checked="" type="checkbox"/> Experimental studies / testing <input type="checkbox"/> Pilot / demonstration activities <input type="checkbox"/> Socio-economic analysis / policy contribution <input checked="" type="checkbox"/> Education, dissemination and impact activities <input type="checkbox"/> Other (please specify):</p>
<p>Preferred Role in Consortia</p>	<p><input checked="" type="checkbox"/> Coordinator <input checked="" type="checkbox"/> Partner</p>
<p>Programmes and Calls of Interest (Please indicate the programme(s) you are interested in and, if possible, specify the call identifier and/or title.)</p>	<p><input checked="" type="checkbox"/> Horizon Europe Clusters <input type="checkbox"/> Erasmus+ <input checked="" type="checkbox"/> Digital Europe <input checked="" type="checkbox"/> EIT (HEI / KIC, etc.) <input checked="" type="checkbox"/> MSCA <input checked="" type="checkbox"/> ERC <input type="checkbox"/> Other (please specify): Specific call identifier and/or title:</p>
<p>Additional Notes (Please provide any additional information or specific remarks you would like to share with the International Projects Office.)</p>	<p>-</p>