ACOUSTICS AND VIBRATION ACADEMY (AVA):

Current trends and advanced methods in acoustics and vibration

04-05 July 2026

Mimar Sinan Fine Arts University, Bomonti Campus

Cumhuriyet Mah. Silahşör Cad. No:71 Bomonti Şişli, Istanbul, Türkiye

This event aims to introduce advanced educational modules combining theoretical foundations with practical applications in three thematic areas.

During the two days program the event will present theory, newly emerging methods and systems to provide advanced-level training designed for both graduate-level students with fundamental knowledge in acoustics and/or vibrations, and professionals working in the field.

Professionals participating in this academy will receive a "certificate of participation". Students, upon request, may obtain a certificate indicating that the training activity has been evaluated as 1 ECTS credit, provided that they complete an additional preparatory assignment and take an examination at the end of the training.
(The awarded 1 ECTS credit is recorded in the Diploma. Supplement at the students' home universities within the scope of the Micro- Credential System.)

ORGANISING COMMITTEE


Bilge Şan Özbilen


Ayça Şentop Dümen


Papatya Nur Dökmeci Yörükoğlu


Konca Şaher


Dilara Kelle

Supported by:

MIMAR SINAN FINE ARTS UNIVERSITY | YUAM

Organised by:

The International Institute of Acoustics and Vibration

TAKDER TURKISH ACOUSTICAL SOCIETY

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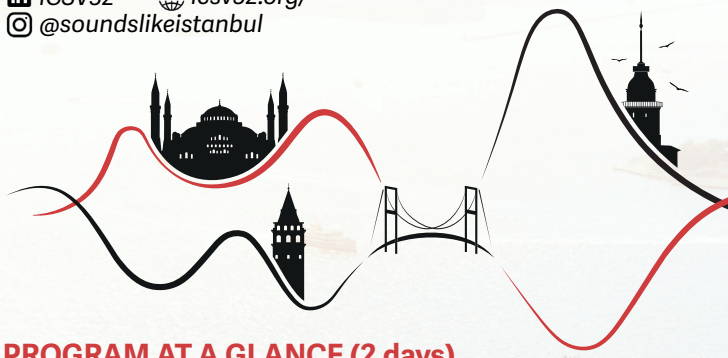

ICSV32

32nd International Congress on Sound and Vibration

05 - 10 JULY 2026

ISTANBUL

The annual congress of the International Institute of Acoustics and Vibration (IIAV)

AVA Acoustics & Vibration Academy

04 - 05 JULY 2026

PROGRAM AT A GLANCE (2 days)

- 1,5 days: Lectures & practical exercises
- Half a day: Workshops & hands-on measurements
- 10-30 minutes: Sponsor presentations
- 30-60 minutes: Exam - for students who want to have it as credits

Target Group: 30 participants x 3 topics
Acoustics students and/or mechanical vibrations students with at least basic knowledge + professional development of graduates (special prerequisites can be defined as requested by educators)

Registration (open until April 30, 2026): USD 150

Participants are required to register via congress website **icsv32.org/**
Modules are limited to **30** participants.

Participation Grants (open until April 30, 2026):

Scholarships of **USD 150**, covering the registration fee will be awarded to **10 students each**.

To be eligible for this grant, applicants must be **young acousticians and/or students studying mechanical vibrations**, **currently enrolled in a Master's or PhD program** and **under 35 years of age**. Priority will be given to students from underrepresented groups, including women, and according to the order of registration.

The scholarship recipients will be informed by email, and the amount paid will be refunded to their accounts.

Grant Application Documents:

- CV and one-page professional biography.
- A brief recommendation letter from the supervisor.
- Student certificate
- Academic transcript

Please combine all the documents listed above into a **single PDF file** and email it to **satellite-event@icsv32.org**. The subject line of the email should be **AVA Student Grants Application_your initials**.

Module 1: Future Soundscapes

Organiser: Assoc. Prof. Dr. Francesco Aletta

1.1. Soundscape
Francesco Aletta, University College London, UK

1.2. Psychoacoustics
Radi Serafimov, HEAD acoustics, Germany

1.3. AI and Digital Methods in Soundscape
Volkan Acun, University of Salford, UK

PBL: Perception-Driven Design in Acoustics
Antonio José Torija Martinez, University of Salford, UK

The Future Soundscapes module is an advanced training course focused on contemporary methods for soundscape assessment and prediction, grounded in the ISO 12913 framework. The course explores soundscape theory, human perception, and psychoacoustics as the basis for structured data collection, analysis, and interpretation across indoor, outdoor, and natural environments.

Participants will engage with current soundscape assessment methodologies, soundscape indicators and descriptors, and the theory behind and application of soundscape prediction models. The training also introduces emerging analytical approaches, including AI-assisted data processing and modelling, and considers how these tools can support evidence-based design, planning, and decision-making within existing regulatory and standards-based contexts.

PBL: Perception-Driven Design in Acoustics

This course introduces perception driven design in acoustics, moving beyond traditional sound level approaches. It aims to explore state of the art methods including auralisation, psychoacoustic testing, and advanced noise and sound quality metrics. Furthermore, the course examines practical applications and success measures to enhance acoustic design aligned with human perception.

Module 2: Room Acoustics Analysis Methods and Solutions for Open Plan Offices

Organiser: Prof. Dr. Peter Svensson

2.1. Room Acoustics Modelling & Theory
Peter Svensson, Norwegian University of Science and Technology, Norway

2.2. Acoustic Design of Open Plan Offices
Valtteri Hongisto, Turku University of Applied Sciences, Finland

PBL: Room Acoustics Characterisation Through Measurements
Peter Svensson, Norwegian University of Science and Technology, Norway

Onur Akaydın, Pro-Plan Ltd., Türkiye

Dilara Kelle, Kadir Has University, Türkiye

Ayça Şentop Dümen, Norwegian University of Science and Technology, Norway

PBL: Screens For Offices
Peter Svensson, Norwegian University of Science and Technology, Norway

This course provides an integrated overview of room acoustics for open-plan offices, combining theoretical foundations, measurement methods, noise control solutions and a case study on acoustic screens.

It gives a short review of fundamental room acoustics theory, with a focus on geometrical acoustics and diffuse-field theory. The concepts of coupled spaces and noise barriers, and their relationship to open landscape offices, will then be discussed in more detail. Possibilities and limitations for geometrical acoustics-based methods and typical room acoustic simulation software will be discussed. Function-specific acoustic criteria, ISO 3382-3 methods, and noise control solutions will be introduced together with case studies.

PBL: Room Acoustics Characterization Through Measurements

This study evaluates a demo room under two conditions. Initial measurements include A-weighted SPL of speech, background noise, STI, and ISO 3382-3 parameters, compared with predictions using an online regression model. In the modified setup, screens are added, and the same procedures are repeated to assess their impact on acoustic performance.

PBL: Screens For Offices

This study presents an analysis of measurement results, simulations, and the overall acoustic performance of the demo room (with and without acoustic screens), and assesses acoustic improvements using an online model.

Module 3: Non-Linear Modal Analysis and Substructuring

Organiser: Prof. Dr. H. Nevzat Özgüven

3.1. Experimental Modal Analysis of Linear Systems
Dario Di Maio, University of Twente, Netherlands

3.2. Frequency Based Substructuring (FBS)
Matt Allen, Brigham Young University, USA

3.3. Analytical and Experimental Modal Analysis of Nonlinear Systems
H. Nevzat Özgüven, Middle East Technical University, Türkiye

PBL: Structural Vibration Measurements
Giancarlo Kosova, Siemens Digital Industries Software, Belgium

The Experimental Linear Modal Analysis module will focus on deriving modal properties from Frequency Response Functions (FRFs). The course is focussed on Single and Multi-Degree of Freedom systems for which many intuitive analysis techniques will be explained and applied. Moreover, examples of FRF visualisations will show how to inspect the linearity of an FRF.

A frequency based substructuring (FBS) framework is used to cover linear substructuring fundamentals such as compatibility, equilibrium and primal/dual assembly. Interface considerations are reviewed including virtual point transformations and the transmission simulator method. Modal substructuring methods, such as the Hurty/Craig-Bampton method, are also briefly introduced and related to these concepts.

Analytical and experimental modal analysis of nonlinear systems will be investigated based on the quasi-linear property of nonlinear systems. Response-controlled harmonic testing provides quasi-linear FRFs from which a response-dependent modal model of a nonlinear system can be derived. Applications of the method on benchmark structures and complex engineering systems will be presented.

PBL: Structural Vibration Measurements

This workshop offers a live demonstration of structural vibration measurements. Learn practical techniques like FRF acquisition using impact or shaker testing, and perform experimental modal analysis with commercial software. Discover pre-test optimization, model correlation with FEA, and how to leverage experimental data for advanced research. This workshop complements the theory sessions.