

Special Issue

Advancing Audio/Speech Machine Learning: From Static to Continual Learning

Message from the Guest Editor

Audio and speech signal processing has traditionally relied on static models developed for fixed datasets. However, real-world audio environments are constantly evolving, with new sounds and contexts emerging over time. In such dynamic settings, conventional models struggle to remain effective without frequent retraining. Continual learning offers a promising solution by enabling audio systems to adapt incrementally to new data while retaining previously acquired knowledge. This Special Issue therefore welcomes the submission of original research articles, technical reports, reviews, and mini-reviews that address topics including, but not limited to, the following:

Continual learning algorithms for audio and speech;
Adaptive audio systems for dynamic environments;
Real-time speech recognition and adaptation;
Cognitive and contextual audio processing;
Audio model generalization and robustness;
Integration of speech feedback mechanisms;
Cross-domain continual learning in audio applications;
Mitigating catastrophic forgetting in sequential audio tasks;
Evaluation frameworks for continual learning in audio systems;
Interdisciplinary approaches to adaptive audio processing.

Guest Editor

Dr. Kele Xu

State Key Laboratory of Complex & Critical Software Environment,
College of Computer Science and Technology, National University of
Defense Technology, Changsha 410073, China

Deadline for manuscript submissions

22 July 2026



Acoustics

an Open Access Journal
by MDPI

Impact Factor 1.2
CiteScore 2.6



mdpi.com/si/253179

Acoustics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
acoustics@mdpi.com

[mdpi.com/journal/
acoustics](https://mdpi.com/journal/acoustics)





Acoustics

an Open Access Journal
by MDPI

Impact Factor 1.2
CiteScore 2.6



[mdpi.com/journal/
acoustics](https://mdpi.com/journal/acoustics)



About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Stéphane Moreau
Mechanical Engineering Department, Université de Sherbrooke,
Sherbrooke, QC J1K2R1, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within ESCI (Web of Science), Scopus, and other databases.

Journal Rank:

CiteScore - Q2 (Acoustics and Ultrasonics)