# SPECIAL ISSUE ON OBJECT-BASED AUDIO

### Guest Editors
**Bill Davies**, University of Salford, UK
**Sascha Spors**, University of Rostock, Germany

Object-based audio is a concept that changes how audio is captured (recorded), how audio is stored, mixed, and produced (workflow), how audio is transmitted (broadcast), and how audio is rendered (reproduced) to the listener. Object-based audio differs significantly from scene-based (e.g. ambisonic) or channel-based (e.g. stereo) paradigms. In object-based audio, typically each separate sound or source is captured as a separate object. A production might be made up of dozens of objects. Each audio object is stored separately, along with its own metadata that describes features of the object such as its type, intended position in space, and so on. Production decisions made about how the objects are to be combined (mixed) are typically encoded into the metadata. This allows the production to be stored and transmitted as separate objects, so that the audio scene is only put together (rendered) at the point of listening. Rendering the scene at the listener gives advantages such as one production being rendered optimally on many different systems (stereo, ambisonic, hi-fi, lo-fi, etc.), sometimes called format-agnostic reproduction.

Interest in object-based audio is currently growing. Several groups around the world are working on research questions such as how audio objects are perceived, how reverb and other environment attributes should be handled, how production environments and workflow might need to change, how the listener's renderer should make decisions to optimize the sound, and how rendering could be customized for different listeners. Manufacturers are developing object-based systems and interested parties have contributed to the first standards dealing with object-based audio.

This special issue invites papers from engineers and researchers on any aspect of object-based audio. These may address perceptual, acoustic, signal processing, reproduction, or other opportunities and problems related to object-based audio. Original papers presenting unpublished material relating to research in, but not restricted to, the topics listed below are invited for consideration for the special issue.

## PROPOSED TOPICS

Definition, capture, and recording of objects

Rendering systems

Transmission and coding

Systems for workflow and production

Perception and cognition of object-based audio

Evaluation of object-based audio (both instrumental and experimental)

Semantic audio and metadata

Applications of object-based audio (e.g. broadcast, music mixing, personal devices, living room systems, games, augmented, virtual and mixed reality, interactive systems, etc.)

Reproduction in non-ideal spaces (e.g. living rooms, headphones outdoors, changing environments)

Personalization and accessibility (e.g. hearing or visual impairment, user interaction)

Hybrid approaches (object/scene/channel-based)

Audiovisual objects

Standardization of object-based audio

## AUTHOR GUIDELINES

Submit complete 4- to 8-page papers (according to the guideline Journal page template) by **2018 June 30**. All submissions will be peer reviewed according to standard JAES review procedures. Authors who wish to submit already-published AES conference/convention papers relating to this topic may do so provided that they are revised and expanded as stated in our Author Guidelines found at: http://www.aes.org/journal/authors/guidelines/. Papers should be submitted online at: http://www.aes.org/journal/submit/. When submitting a paper, please do so under the article category "Special Issue (Object-Based Audio)" rather than "Research Paper" or "Engineering Report." The target publication date for this special issue is Jan/Feb. 2019, and a strict reviewing and revision schedule will be introduced to this end, although this date is subject to possible change.

### For more information contact

### Guest Editor
Bill Davies <w.davies@salford.ac.uk>
Sascha Spors <Sascha.Spors@uni-rostock.de>