

# Sound Studies and Sonic Arts

## Summer Term 2026

**Phase** Focus

**Module** Practice

**Course Title** [AV] Immersive Audio | Seminar

**Course Times and Location** Wednesdays | 10 am – 2 pm | LIE 318

**Instructor** [Prof. Daisuke Ishida](#)

**Email** [d.ishida@udk-berlin.de](mailto:d.ishida@udk-berlin.de)

**Office Hours and Location** upon request, before or after the seminar

**Possible Credit Points** Practice 2CP/4CP (G), Free Focus 2CP/4CP (NG)

## Course Description

Immersive Audio seminar aims at preparing students to work with different frameworks and concepts. Two approaches will be discussed and applied:

1. Ambisonics Workflows, field recording with ambisonics microphone and 360°-Video by Reaper [1] and The IEM Plug-in Suite [2].

2. Object Based Workflows, Max [3] and Ircam Spat [4]

Offered practical / hands-on aspects. It targets students interested in working with immersive audio environments.

After the class, you should be able to evaluate and use them.

[1] Reaper <https://www.reaper.fm>

[2] IEM Plug-in Suite <https://plugins.iem.at>

[3] Max <https://cycling74.com>

[4] Ircam Spat <https://forum.ircam.fr/projects/detail/spat/>

### [AV] Cluster 2026 – Consecutive Format

This seminar is part of the [AV] Cluster 2026 and is mandatory for students who intend to participate in the Planetarium project “Portale 2026” during the Project Phase in winter semester 2026/27.

This seminar must be taken together with “[AV] Immersive Environments” (Martin Sulzer). The two [AV] seminars form a consecutive unit and can only be attended jointly. Enrollment in these seminars constitutes a binding commitment to continue with the Project Phase in winter semester 2026/27. Partial participation (only one seminar or only the project) is not possible. Students are additionally encouraged to attend “Sound and Vision” (Jan Thoben).

### Project Phase 2026/27 – Planetarium Project “Portale 2026”

In collaboration with Zeiss-Großplanetarium Berlin and SoundS Udk Berlin, the Project Phase “Portale 2026” offers students the opportunity to develop audiovisual fixed-media works for the planetarium context.

## Requirements for attending

No requirements.

Install the current version of Reaper, IEM Plug-in Suite, Max and Ircam Spat in your laptop before attending.

Prior experience with Reaper and Max is advantageous.

Active participation is mandatory.

Max. 12 students

# Sound Studies and Sonic Arts

## Schedule

### 15.04.2026 – Introduction

- **AM:** Ambisonics introduction
- **PM:** Seminar overview, Introduction to immersive media

### 29.04.2026 – 360° Recording

- **AM:** Introduction to 360° recording techniques and test shoots
- **PM:** Sync, playback, exporting, and testing
- **Assignment:** 360° audiovisual recording

### 13.05.2026 – Experiencing Immersion

- **AM:** Experiences the recorded materials via surround sound, VR headsets, and projection
- **PM:** Experience the pieces made for Portale 2023 + 2024

### 20.05.2026 – Reaper+IEM Plugins, Softwares

- **AM:** Reaper + IEM Plugins
- **PM:** Overview of various software tools for immersive media and first steps in TouchDesigner

### 21.05: Visit the "Sound and Vision" seminar by Jan Thoben (Optional)

### 03.06.2026 – Max+Spa, Speed in Immersive Media and Audio Reactivity

- **AM:** Max MSP + ircam Spa
- **PM:** Exploration of what slow, fast, and rhythm mean across different media formats. How to do audio-reactive and procedurally generated visuals in TouchDesigner

### 17.06.2026 – Visual Dynamics & Dome Rendering

- **AM:** TBD
- **PM:** An analysis of what dynamic and contrast mean in the context of imagery Techniques for exporting and rendering content specifically for the fulldome format.

### 24.06.2026 – Present & Consultations

- **AM:** Present artistic ideas for the July showcase
- **PM:** Individual project consultations

A group excursion to the planetarium is being planned, with the date to be determined.

### 15.07.2026

- 2CP Showcase of an immersive audio-visual study piece in room 318

### Late September 2026

- 4CP assignment showcase at Timelab at the HHI Fraunhofer Institute

# Sound Studies and Sonic Arts

## Exam / Credit Points

### **2CP assignment (graded: Practice; not graded: Free Focus):**

Regular attendance and active participation. A showcase of an immersive audio-visual study piece is planned on the 15.07.2026

### **Consecutive assignment leading to 4CP for the course (optional; graded: Practice; grading: mean of both grades; not graded: Free Focus):**

Presenting an Audiovisual assignment at the end of September at Timelab at HHI Fraunhofer Institute  
+ Documentation of the piece, addressing audio and visual parts separately (no longer than 1500 words, due 1 Oct. 2026).

## Supporting Media

What is 32-bit Float Recording?

<https://www.dpamicrophones.com/mic-university/technology/32-bit-floating-point-and-other-conversions/>  
[https://tascam.jp/int/feature/32-bit\\_float](https://tascam.jp/int/feature/32-bit_float)

**Toole**, Floyd E. *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms*. Third edition. New York ; London: Routledge, 2017.

**Rumsey**, Francis. *Spatial Audio. Music Technology Series*. Oxford ; Boston: Focal Press, 2001.

**Roginska**, Agnieszka, ed. *Immersive Sound: The Art and Science of Binaural and Multi-Channel Audio*. New York; London: Routledge, 2017.