

2025 AHSS International Summer School

Programme Topic:

Creative Media – Immersive Audio Production

Academic Lead:

Mr Chris Corrigan

Date:

23 June – 3 July

Topic Summary

The Immersive Audio Production strand of the Summer School will introduce participants to a range of recording and mixing workflows for the creation of audio content in immersive audio formats. Teaching will take place in the Sonic Laboratory - a unique concert hall featuring a 56-channel loudspeaker array designed specifically for immersive audio projection. Topics covered will include spatial soundscape recording, ambisonic encoding and decoding, surround sound music mixing, and Dolby Atmos immersive audio presentation. Delivery methods will include lectures, workshops and Sonic Lab listening sessions to critique commercial music mixes and participant work-in-progress. Participants will gain practical experience of recording, editing and mixing soundscapes and music for immersive audio presentation. The strand will conclude with Sonic Lab performances of the work created throughout the summer school.

Intended Learning Outcomes

Upon completion of the Immersive Audio Production strand of the Summer School, students will be able to:

- distinguish between the descriptors for different surround sound presentation such as spaciousness, envelopment and immersion
- create channel-based surround mixes of music content and critique the work of others
- record and decode soundscapes in ambisonic format and edit these recordings to construct an immersive soundwalk
- distinguish between the use of audio beds and audio objects when mixing using an object-oriented surround system
- create Dolby Atmos Music mixes of music content and critique the work of others
- collaborate with others on the creation of a large-scale immersive audio composition



Monday 23 June 2025			
Time	Session/Activity	Academic Lead	Location
CHANNEL BASED SURROUND MIXING (MUSIC)			
9.30am - 11.00am	Welcome This introductory session will provide an overview of the aims and objectives of the Immersive Audio Production strand of the Summer School. Additionally, this session will include demonstration and discussion of the use of Avid Pro Tools for the mixing of musical content in channel-based surround sound formats. Topics covered will include the role of the centre channel in music mixes and timbral considerations when introduction spatial trajectories.	Mr Chris Corrigan	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Listening Session 1 This and all subsequent listening sessions will take place in the Sonic Laboratory – a unique listening space capable of 360-degree sound projection over a 56-channel loudspeaker configuration. This listening session will introduce students to the varying aesthetic approaches to the presentation of music in channel-based surround sound formats. A range of musical examples will be presented and critiqued.	Mr Chris Corrigan	SARC
1pm – 2pm	Lunch		
2pm – 3.30pm	Practical Session 1 Students will be provided with a range of multitrack music recordings. Working in small groups, students will be asked to create a draft surround mix of the given materials in the 7.1 surround sound format.	Mr Chris Corrigan	SARC



Tuesday 24 June 2025			
Time	Session/Activity	Academic Lead	Location
SPATIAL SIGNAL PROCESSING			
9.30am - 11.00am	Spatial Signal Processing This session will introduce students to a range of tools specifically designed for spatial signal processing. Software tools reviewed will include the GRM Tools Spaces bundle and the Sound Particles immersive audio processing environment.	Mr Chris Corrigan	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Practical Session 2 Students will continue to work in small groups to refine their 7.1 mixes of the given multitrack music recording. Students will be encouraged to incorporate elements of spatial signal processing in their 7.1 mixes.	Mr Chris Corrigan	SARC
1pm – 2pm	Lunch		
2pm – 3.30pm	Listening Session 2 This listening session will be used to review and critique the channel-based surround mixes of the given music materials completed during Week 2, days 1 and 2 of the Summer School - 'Immersive Audio Production'.	Mr Chris Corrigan	SARC



Wednesday 25 June 2025			
Time	Session/Activity	Academic Lead	Location
IMMERSIVE SOUNDWALK RECORDING			
9.30am - 11.00am	Ambisonic Field Recording This session will introduce students to field recording approaches for immersive sound capture, the use of ambisonic field recording microphones and recorders, and monitoring strategies while recording on location.	Dr Georgios Varoutsos & Dr Isaac Gibson	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Listening Session 3 This listening session will be used to present a range of immersive soundwalk compositions. Different soundwalk structures and narratives will be presented and critiqued, and differing degrees of immersion resulting from different technical approaches will be reviewed.	Dr Georgios Varoutsos & Dr Isaac Gibson	SARC
1pm – 2pm	Lunch		
2pm – 3.30pm	Practical Session 3 Weather permitting(!) this session will provide students with practical experience of making field recordings using ambisonic microphones and portable multitrack recorders. Students will gather a range of soundscape recordings representing the 'Sounds of Belfast'.	Dr Georgios Varoutsos & Dr Isaac Gibson	Belfast City

Thursday 26 June 2025			
Time	Session/Activity	Academic Lead	Location
IMMERSIVE SOUNDWALK COMPOSITION			
9.30am - 11.00am	Ambisonic Decoding This session will introduce students to workflows for decoding ambisonic recordings for use in immersive soundwalks. Topics covered will include techniques for media transfer, IEM plugins, editing techniques and soundwalk assembly.	Dr Georgios Varoutsos & Dr Isaac Gibson	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Practical Session 4 Using the field recordings made on Day 3 of Week 2, this practical session will be an opportunity for students to apply ambisonic decoding techniques to these recordings and commence editing and assembly of a draft of an immersive soundwalk composition.	Dr Georgios Varoutsos & Dr Isaac Gibson	SARC
1pm – 2pm	Lunch		
2pm – 3.30pm	Listening Session 4 This listening session will be used to review and critique the immersive sound walks completed during Week 2, days 3 and 4 of the Summer School - 'Immersive Audio Production'.	Mr Chris Corrigan, Dr Georgios Varoutsos & Dr Isaac Gibson	SARC



Friday 27 June 2025			
Time	Session/Activity	Academic Lead	Location
9.00am – 5.00pm	Field trip to North Coast Students will join their peers from other programmes on a trip to the North Coast, including a visit the ruins of the medieval Dunluce Castle and the famous Giant's Causeway World Heritage Site.		



Monday 30 June 2025			
Time	Session/Activity	Academic Lead	Location
DOLBY ATMOS MUSIC			
9.30am - 11.00am	Dolby Atmos Music This session will introduce students to the Dolby Atmos format and its use for distribution of Music-only content. Topics covered will include the cinematic origins of the format, the adoption of Dolby Atmos for music, and the integration of authoring tools into DAWs such as Pro Tools.	Mr Chris Corrigan	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Listening Session 5 This listening session will introduce students to the varying aesthetic approaches to the presentation of music in the Dolby Atmos Music surround sound format. A range of musical examples will be presented and critiqued.	Mr Chris Corrigan	SARC
1pm – 2pm	Lunch		
2pm – 4.00pm	Practical Session 5 Students will be provided with a range of multitrack music recordings. Working in small groups, students will be asked to create a draft surround mix of the given materials in the Dolby Atmos Music surround sound format.	Mr Chris Corrigan	SARC



Tuesday 1 July 2025			
Time	Session/Activity	Academic Lead	Location
THE MUSIC OF BELFAST			
9.30am - 11.00am	Practical Session 6 Students will continue to work in small groups to refine their Dolby Atmos Music mixes of the given multitrack music recordings. Students will be encouraged to incorporate elements of spatial signal processing in their Atmos mixes.	Mr Chris Corrigan	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Listening Session 6 This session will be used to introduce students to the instrumental dance music of Ireland and how its instrumentation and dance music forms have been used by composers in contemporary compositional practice.	Mr Chris Corrigan	SARC
1pm – 2pm	Lunch		
2pm – 3.30pm	Fieldtrip This extended slot will be used to complete a Belfast Music Walking Tour and will be an opportunity to gather additional source recordings for potential inclusion in the immersive audio work presented at the end of the Summer School.	Mr Chris Corrigan	SARC



Wednesday 2 July 2025			
Time	Session/Activity	Academic Lead	Location
PROJECT ASSEMBLY			
9.30am - 11.00am	Listening Session 6 This listening session will be used to review and critique the Dolby Atmos Music mixes of the given music materials completed during Week 3, day 2 of the Summer School - 'Immersive Audio Production'.	Mr Chris Corrigan	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Project Assembly This session will be used to allow students to brainstorm and agree individual or group goals for the realisation of a short immersive audio work drawing on learning and materials explored over the previous two weeks of the summer school.	Mr Chris Corrigan	SARC
1pm – 2pm	Lunch		
2pm – 3.30pm	Project Assembly This session will allow students to further develop the realisation of a short immersive audio work drawing on learning and materials explored over the previous two weeks of the summer school.	Mr Chris Corrigan	SARC



Thursday 3 July 2025			
Time	Session/Activity	Academic Lead	Location
PROJECT ASSEMBLY AND SHOWCASE			
9.30am - 11.00am	Project Assembly This session will allow students to further develop the realisation of a short immersive audio work drawing on learning and materials explored over the previous two weeks of the summer school.	Mr Chris Corrigan	SARC
11.00am – 11.30am	Break		
11.30am – 1pm	Project Assembly This session will allow students to complete the realisation of a short immersive audio work drawing on learning and materials explored over the previous two weeks of the summer school.	Mr Chris Corrigan	SARC
1pm – 2pm	Lunch		
2pm – 5.00pm	Showcase The Immersive Audio Production strand of the Summer School will conclude with an extended showcase event in the Sonic Laboratory. The showcase will feature work realised by students on the programme including immersive soundwalks, immersive music mixes and immersive compositions.	Mr Chris Corrigan	SARC