School of Computing, Engineering, and the Built Environment
Edinburgh Napier University

PHD STUDENT PROJECT

Funding and application details

Funding status: Self funded students only

Application instructions:
Detailed instructions are available at https://blogs.napier.ac.uk/scebe-research/available-phd-student-projects/

Prospective candidates are encouraged to contact the Director of Studies (see details below) to discuss the project and their suitability for it.

Project details

Supervisory Team:

- DIRECTOR OF STUDY: Dr Balandino Di Donato (Email: B.DiDonato@napier.ac.uk)
- 2ND SUPERVISOR:

Subject Group: Applied informatics

Research Areas: Acoustics Engineering, Music Technology, Human Computer Interaction, Videogames

Project Title: Augmented Audio Soundscape Design for Enhanced Experiences

Project description:

Soundscape design is an interdisciplinary field that has the potential to transform how we experience and interact with our surroundings. This PhD project seeks to explore the application of augmented audio technologies in soundscape design to create immersive and engaging environments. By combining auditory augmentation with traditional soundscape elements, this research aims to enhance our experiences in various settings, from urban public spaces to virtual and augmented reality environments.

Research Objectives for this project are:

1. Develop an augmented audio framework for soundscape design.
2. Investigate the impact of augmented audio on environmental perception.
3. Explore the integration of augmented audio in urban public spaces.
4. Develop immersive auditory experiences in virtual and augmented reality.
5. Evaluate the usability and effectiveness of augmented audio in various contexts.

Expected Outcomes:

1. Development of an augmented audio framework for soundscape design.
2. Insights into the impact of augmented audio on environmental perception.
3. Integration guidelines for augmented audio in urban public spaces.
4. Creation of immersive auditory experiences in virtual and augmented reality.
5. An evaluation of the usability and effectiveness of augmented audio technologies.

References:

Candidate characteristics

Education:

A first-class honours degree, or a distinction at master level, or equivalent achievements in Sound Design, Acoustics, Psychoacoustics, or Interactive Audio

Subject knowledge:

- Sound Design
- Acoustics
- Psychoacoustics
- Interactive Audio

Essential attributes:

- Research skills:
  - Conducting independent research research
- Practical skills:
  - Sound recording: use of sound-field microphones and recorders
  - Sound Design: Reaper, Wwise,
  - Audio analysis and AI: AI and sound analysis libraries in Python.
  - Programming: C# and Python

Desirable attributes:

- Programming: C++