



UK Research Snapshot

The UK has many active research groups working in digital music research. These groups publish their work in an international context and are making valuable contributions to both the development of knowledge and the development of the field.

The DMRN Roadmap project made two surveys of research activity to determine:

1. the scope and extent of UK research in digital music;
2. research specialisms of research groups and the focus of UK research activities.

The UK Research Snapshot provides a summary of digital music research activity and UK strengths in the field. It is a picture of current work. The Snapshot does not document all research activity in the UK connected to sound or music. The information collated here consists of data gathered via surveys of DMRN members, research groups, representatives of the UK digital music industry and students. All contributors have chosen to represent themselves or prompted groups outside of the network to submit information. All network partners were asked to contribute to the snapshot. The Snapshot focuses on digital music research, defined under Scope.

The UK Research Snapshot provides:

- Evidence of research activity in a wide range of digital music topics
- An outline of UK research strengths in digital music
- A "picture" of current activity in the field
- A resource for researchers and students

A survey was conducted in 2003 by the DMRN. UK research groups were asked to submit information about published papers that highlighted their research activities under a series of headings.

The published papers supported the following topics and defined the scope of UK based research in digital music.

↳ Scope

UK researchers are active in the fields of:

1. Acoustics
2. Audio analysis (including machine recognition of audio; machine recognition of music)

3. Audio dissemination systems
4. Audio engineering
5. Audio signal processing
6. Digital music content generation (including algorithmic composition, computer and electroacoustic music composition, and environments for creative work)
7. Education in music and technology systems
8. Human computer interfacing for music and audio
9. Interactive performance systems
10. Information systems for audio
11. Musical applications of artificial intelligence
12. Music data structures and representations
13. Music information retrieval
14. Music notation
15. Music in the context of other Media
16. Performance interfaces for music and interactivity
17. Psychoacoustics, perception, cognition of music and audio
18. Sound synthesis
19. Sound reproduction technologies (including surround sound)
20. Timbre
21. Tools for music analysis
22. Vocal production and singing

∴ UK Research Groups

The following research groups contributed information to the UK Research Snapshot:

Audio Lab

Department of Electronics, University of York

Centre for cognition, computation and culture
Goldsmiths' College, University of London

Centre for Music Technology
University of Glasgow

Computer music research group
University of Plymouth

Department of Computing
Open University

Department of Music
University of Huddersfield

Department of Music
University of East Anglia

Centre for Digital Music
Queen Mary, University of London

Institute of sound recording
University of Surrey

Intelligent Sound and Music Systems (ISMS) group
Goldsmiths' College, University of London

Interaction, media and communication research group
Queen Mary, University of London

Interdisciplinary Centre for Scientific Research in Music
University of Leeds

MISTRES
University of Sheffield

Multimedia Knowledge Management Group
Imperial College, London

Music informatics research group
City University

Department of Music
University of York

Music, technology and innovation research group
De Montfort University

Signal Processing Laboratory
University of Cambridge

Sonic Arts Research Centre
Queen's University Belfast

∴ UK Digital Music Research output

A survey was carried out in 2005 by the DMRN to establish what research group leaders considered to be indicative of their current activity and direction. This survey differed from the 2003 survey. This second shorter survey asked for a small representative cross section of work that characterized the work of each research group.

Information gathered from both the 2003 and 2005 surveys about published work in digital music research is collated below.

University of Plymouth

- Miranda, E. R. and Brouse, A. (2005). "Interfacing the Brain Directly with Musical Systems: On developing systems for making music with brain signals", *Leonardo*, 38(4):331-336.

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Open University

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University of Cambridge

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University of Sheffield, MISTRES

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University of Glasgow, Centre for Music Technology

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Queen Mary, University of London, Centre for Digital Music

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University of York, Audio Lab, Department of Electronics group

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University of East Anglia, Music

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University of York, Department of Music

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Queen's University Belfast, Sonic Arts Research Centre

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All reference information above has been provided to the DMRN by UK researchers.