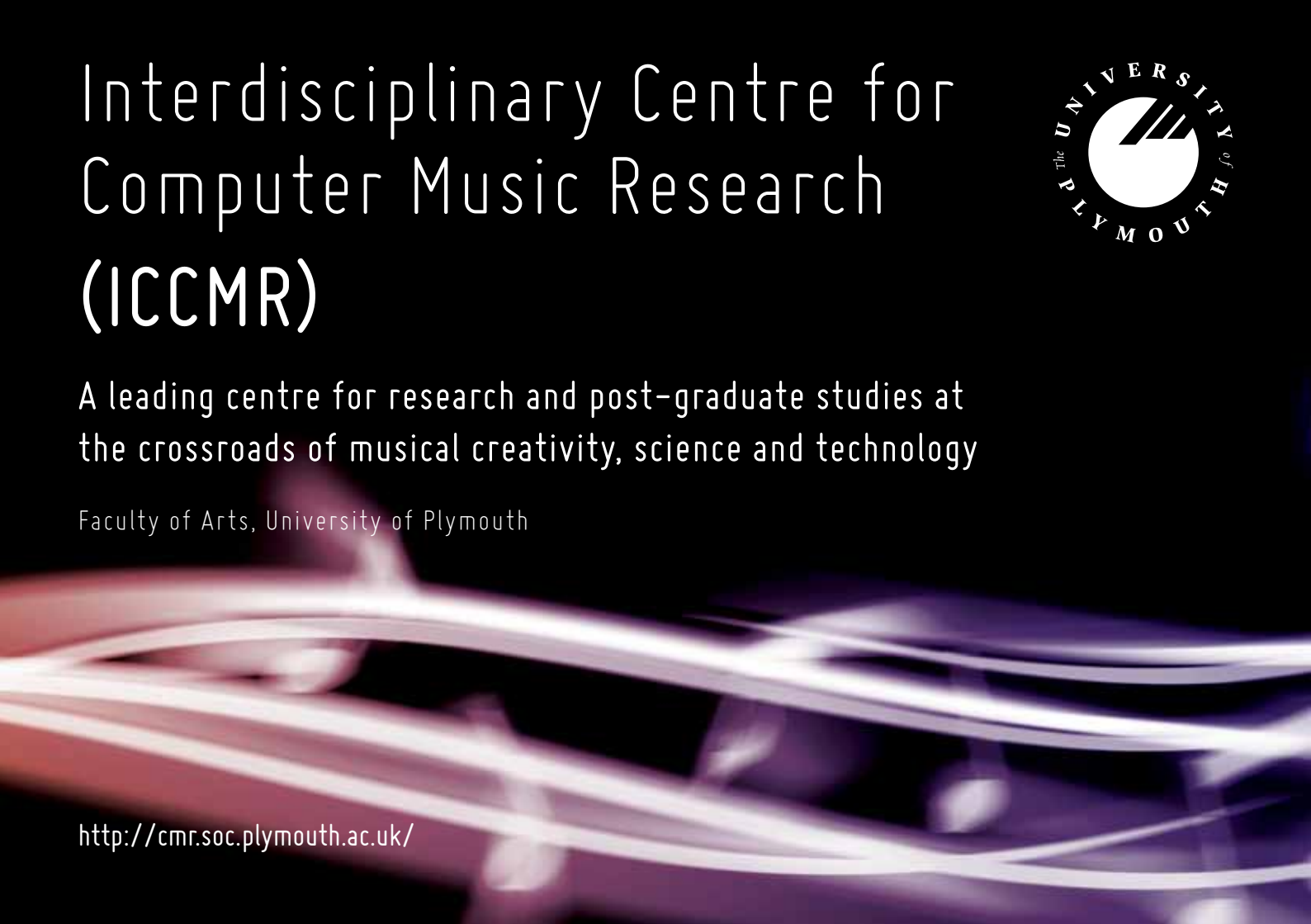
Interdisciplinary Centre for Computer Music Research (ICCMR)

A leading centre for research and post-graduate studies at the crossroads of musical creativity, science and technology

Faculty of Arts, University of Plymouth



http://cmr.soc.plymouth.ac.uk/

Computing technology is increasingly present in all aspects of music. It is having a profound impact on how music is studied, composed, performed, listened to, stored and distributed.

ICCMR is a world-leader in the development of music technology informed by new computational paradigms and brain sciences. Smart sound design and synthetic music pervades a wide range of creative practices, from avant-garde contemporary music to entertainment media for mass consumption. Software sound synthesis techniques offer musicians the possibility of creating bespoke digital musical instruments capable of producing an unprecedented range of novel sounds. Artificial Intelligence allows for the design of composition methods that would have been impossible to conceive otherwise.

ICCMR is a pioneer of evolutionary computer music, using computational neo-Darwinian approaches to study and compose music. We are developing systems that simulate musical intelligence in surrogate societies of artificial agents and robotic simulations. These systems are programmed with the cognitive and physical abilities deemed necessary to develop music in their own right, rather than programmed with preconceived music rules, knowledge and procedures.

We are developing brain-computer interfaces that allow people with severe physical disabilities to control musical instruments with brain signals scanned online. We are pioneering the use of unconventional computation in music: ICCMR championed techniques for synthesizing sounds with simulations of chemical computers, models of cortical neuronal networks and in vitro cultured neurons. ICCMR expertise also includes sound engineering and production, sound design, sound synthesis, computer-aided composition, electroacoustic music and interactive systems.

Converting basic research outcomes into real world applications through practice-based research is pivotal for our success. ICCMR's highly interdisciplinary research environment supports musicians developing and applying new concepts, methodologies and technologies. ICCMR has teamed up with Peninsula Arts (www.peninsula-arts.co.uk) to stage the annual Peninsula Arts Contemporary Music Festival in Plymouth, which is a significant venue to showcase our work. "Old and new technology meet in a thoroughly modern festival" (Gramophone, July 2009).

ICCMR
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The relationship between the people who make music happen and computing technologies is pivotal for the future of the music industry.

(Prof Eduardo Miranda, Head of ICCMR)

ICCMR offers unique opportunities for post-graduate degrees underpinned by research of international significance, with over 100 peer reviewed papers published within the last 5 years. Our research has been funded by the Engineering and Physical Sciences Research Council (EPSRC), Arts and Humanities Research Council (AHRC), The Levelhulme Trust, European Union and UNESCO.

ICCMR is affiliated to the Centre for Research in the Humanities, Music and Performing Arts (HuMPA) within the School of Humanities and Performing Arts at the University of Plymouth*, fostering opportunities for interdisciplinary and practice-based research with colleagues from Theatre and Performance Arts, Dance and Creative Writing.

*www.plymouth.ac.uk/schools/hpa

MRes Computer Music

The Master of Research in Computer Music provides an exciting opportunity to pursue an individual Masters research project on the interplay between music, science and computing. This course is praised for its hands-on approach and nurtures the skills necessary to progress with more advanced research towards a PhD.

The notion of interdisciplinarity is key to the MRes Computer Music and we welcome students from a variety of backgrounds: practicing musicians, music graduates, musicologists, music educators, music technologists and graduates from other areas with proven knowledge of music and/or music technology.

Candidates should hold, or be in the process of gaining, an upper second (2:1) or first class degree in Music, Music Technology, Music Informatics, Audio Production, or equivalent. Candidates from other areas, but with proven suitable knowledge of music are very welcome to apply. In exceptional circumstances candidates who do not hold a first degree compatible with the UK system, but possess significant professional experience may qualify for entry. Please enquire. Evidence of proficiency in written and spoken English (IELTS or TOEFL) is required for non-native English speakers.

We offer MPhil and PhD programmes in the Faculty of Arts through the University of Plymouth's Graduate School.

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