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HUDDERSFIELD

**FUTURE TECHNOLOGIES
IN COMPUTING AND ENGINEERING**

Proceedings
of
Computing and Engineering Annual Researchers'
Conference 2010

CEARC'10

**Edited By:
Prof. Gary Lucas, Dr. Zhijie Xu**

**Organising Committee:
Prof. Gary Lucas, Dr. Zhijie Xu, Mrs. Trudy Lockwood, Mrs. Gwen Wood**

Preface

It is my pleasure to introduce this volume of proceedings for the 2010 School of Computing and Engineering Annual Researchers' Conference (CEARC'10). The proceedings include 30 papers and 10 posters submitted from postgraduate researchers across the Informatics and Engineering and Technology Departments within the School of Computing and Engineering at the University of Huddersfield.

The Annual Conference started in its current format in 2006 and is intended as a forum for encouraging postgraduate researchers to develop their research and innovation skills and to present their findings to a technical audience. The CEARC conference series covers frontier issues in the computing and engineering sciences and the application of these issues to business, industry, and other areas.

This year the conference has a special theme 'Future Technologies', with particular emphases on (i) bio-fuels and (ii) techniques for the diagnosis of faults in machinery as well as a range of other topics.

The papers in the proceedings were selected after careful consideration of their research quality and the content of the presentations. The wide spectrum and depth of subject material contained within the papers reflect the aims and objectives of the research strategies of both the School and the University.

I trust that you will find this volume to be a valuable record of research carried out in the last 12 months and to provide an excellent reference source for both established academics and young researchers.

Finally, I would like to thank the authors and the reviewers for their input to this issue of the proceedings.

Professor Gary Lucas and Dr. Zhijie Xu
School of Computing and Engineering
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