Knowledge-Based Intelligent Engineering Systems Centre

The KES research activities are mainly focused on modeling, analysis and design in the areas of intelligent information systems, physiological sciences systems, electronic commerce and service engineering. The centre aims to provide applied research support to the information, defence and health industries. The overall goal will be to integrate contributions from researchers in diverse disciplines such as engineering, information technology, science, cognitive science and psychology.

MISSION

- To perform world class research.
- To provide a world class research environment for postgraduate students.
- To develop excellence in undergraduate teaching.
- To create intellectual property and transfer this technology to industry.

KEY RESEARCH AREAS

- Modelling, Design and Implementation of Knowledge-Based Intelligent Systems.
- Intelligent information and Image Processing.
- Intelligent Medical Systems and Health Physics.
- Unmanned Air Vehicles: Agent-based control, teaming, learning.
- Human-Machine Teaming

OBJECTIVES

- Develop and offer knowledge-based cost-effective intelligent system design and diagnostic techniques to industry.
- Develop excellence in teaching, attract postgraduate students and provide research support to local industries.
- Enhance intelligent system design methodology by applying novel intelligent paradigms.
- Develop new techniques for E-commerce and Secure systems.

SELECTED CURRENT AND PAST PROJECTS INCLUDE

- Hidden Objects and Landmine Detection
- [illegible]easurement and Modelling of Diagnostic X-ray Spectra
- Intelligent Paradigms for Classifier Design
- Design of Wheelchair Controller Using Neuro-fuzzy Techniques
- Monte Carlo Calculation of Radiation Dose
- Knowledge-Based Aircraft Landing Support System
- Intelligent Paradigms in Image Registration and Super Resolution
- Learning and Teaming in Intelligent Agents
- Intelligent Techniques in Medical Diagnosis
- A Neural-based Automatic Target Detection
- Autonomous Mobile Robotics
- Decision and Tracking of Airborne Targets
- Unmanned Air Vehicles, Human-Machine Teaming
- Intelligent Teaching and Learning paradigms

EDUCATION

Applications for the degree of Master of Engineering by research and Doctor of Philosophy degree by research in the field of Knowledge-Based Engineering are most welcome.

RESEARCH STAFF

L.C. Jain, J.E. Pattison (Deputy Director), A. Finn (Director: Research), L. Swierkowski (Director: Intelligent Signal and Image Processing), P. Urlings (Director: Defence Systems), J. Tweedale (Director: Defence Relations), A. Hariz (Director: System Design), N.M. Martin (Director: Industry Liaison), G. Bibbo (Director: Healthcare)

INVITATIONS

We welcome postdoctoral and sabbatical leave applications.

ENQUIRIES

Enquiries should be directed to:



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