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Preface

Delegates and friends, we are very pleased to extend to you a warm welcome to this, the 12th International Conference on Knowledge-Based and Intelligent Information and Engineering Systems organised by the Faculty of Electrical Engineering and Computing at the University of Zagreb, in association with KES International.

For over a decade, KES International has provided an annual wide-spectrum intelligent systems conference for the applied artificial intelligence research community. Having originated in Australia and been held there during 1997–99, the conference visited the UK in 2000, Japan in 2001, Italy in 2002, the UK in 2003, New Zealand in 2004, Australia in 2005, the UK in 2006, Italy in 2007, and now in Zagreb, Croatia in 2008. It is planned that KES 2009 will be held in Santiago, Chile before returning to the UK in 2010. The KES conference is mature and regularly attracts several hundred delegates. As it encompasses a broad range of intelligent systems topics, it provides delegates with an opportunity to mix with researchers from other groups and learn from them. The conference is linked to the International Journal of Intelligent and Knowledge-Based Systems, published by IOS Press under KES editorship. Extended and enhanced versions of the best papers presented at the KES conference may be published in the Journal.

In addition to the annual wide-range intelligent systems conference, KES has run successful symposia in several specific areas of the discipline. Agents and Multi-Agent Systems is a popular area of research. The first KES symposium on Agents and Multi-Agent Systems took place in 2007 in Wroclaw, Poland (KES-AMSTA 2007) followed in 2008 by a second in Incheon, Korea (KES-AMSTA 2008). The third in the series is planned to be held in the historic city of Uppsala in Sweden (June 3–5, 2009). Intelligent Multi-Media is a second area of focus for KES. The first KES symposium on Intelligent and Interactive Multi-Media Systems and Services (KES IIMSS 2008) will be held in Athens, Greece, in 2008, followed by a second in Venice, Italy, in 2009 (dates to be notified). A third area of interest supported by KES is Intelligent Decision Support Technologies, and the first KES symposium on this subject (KES IDT 2009) is planned for Hyogo in Japan for next year (April 23–25, 2009). Over time, each of these areas will be supported by a KES focus group of researchers interested in the topic, and if appropriate, by a journal. To this end, the International Journal of Intelligent Decision Support Technologies is published by IOS Press under the editorship of a developing KES IDT focus group.

For the future we have plans and a vision for KES. Firstly, we describe the plans.

We plan to maintain and increase the quality of KES publications. The KES quality principle is that we do not seek to expand KES activities by publishing

inferior papers. However, equally, we do not believe it serves authors or the research community to reject good papers on the basis of an arbitrary acceptance / rejection ratio. Hence papers for KES conferences and symposia, and the KES Journal, will be rigorously reviewed by experts in the field, and published only if they are of a sufficiently high level, judged by international research standards.

We will further develop KES focus groups, and where appropriate, we will adopt journals and symposia, where this supports and helps us maintain our quality principle.

We introduced the concept of KES membership several years ago to provide returning KES delegates with discounted conference fees. We plan to supplement the benefits of KES membership by launching a profile page system, such that every KES member will have their own profile page on the KES web site, and be able to upload a description of themselves, their research interests and activities. The member site will act as a contact point for KES members with common interests and a potential channel to companies interested in members' research.

Printing technology is changing and this will have an effect on publishers and publications. We are conducting trials with rapid publication technology that makes it possible to print individual copies of a book on demand. The KES Rapid Research Results book series will make it convenient to publish books appealing to niche markets, for example specialised areas of research, in a way that would not have been economic before.

Many KES members and supporters have research interests outside intelligent systems. In fact, intelligent systems may just be a tool used for an application which is the main interest. A significant number of those involved in KES have interests in environmental matters. In 2009, KES will address the issue of sustainability and renewable energy through its first conference in this area, Sustainability in Energy and Buildings (SEB 2009), which will be held in Brighton, UK, April 30–May 1, 2009. SEB 2009 will address a broad spectrum of sustainability issues relating to renewable energy and the efficient use of energy in domestic and commercial buildings. Papers on the application of intelligent systems to sustainability issues will be welcome. However, it will not be compulsory that papers for SEB 2009 have significant intelligent systems content (as is a criterion for other KES conferences and symposia).

In addition to the firm plans for KES there is a longer term vision. In the time that it has been in existence, KES International has evolved from being the organiser of just a single annual conference, to a provider of an expanding portfolio of support functions for the research community. Undoubtedly, KES will continue to develop and enhance its knowledge transfer activities. The KES community consists of several thousand members, and potentially it could play a significant role in generating synergy and facilitating international research co-operation. A long term vision for KES is for it to evolve into an international academy providing the means for its members to perform international collaborative research projects. At the moment we do not have the means to turn this vision into a reality, but we will work towards this aim.

The annual KES conference continues to be a major feature of the KES organisation, and KES 2008 will continue the tradition of excellence in KES conferences.

The papers for KES 2008 were submitted either to Invited Sessions, chaired and organised by respected experts in their fields, or to General Sessions, managed by Track Chairs. Each paper was thoroughly reviewed by two members of the International Review Committee, and also inspected by a Track Chair or Invited Session Chair. A decision about whether to publish the paper was made, based on the KES quality principle described above. If the paper was judged to be of high enough quality to be accepted, the Programme Committee then decided on oral or poster presentation, based on the subject and content of the paper. All papers at KES 2008 are considered to be of equal weight and importance, no matter whether they were oral or poster presentations. This has resulted in the 316 high-quality papers included in these proceedings.

Thanks are due to the very many people who have given their time and goodwill freely to make the conference a success.

We would like to thank the KES 2008 International Programme Committee for their help and advice, and also the International Review Committee, who were essential in providing their reviews of the papers. We are very grateful for this service, without which the conference would not have been possible. We thank the high-profile keynote speakers for providing interesting expert talks to inform and inspire subsequent discussions.

An important feature of KES conferences is the Invited Session Programme. Invited Sessions give both young and established researchers an opportunity to organise and chair a set of papers on a specific topic, presented as a themed session. In this way, new topics at the leading edge of intelligent systems can be presented to interested delegates. This mechanism for feeding new ideas into the research community is very valuable. We thank the Invited Session Chairs who have contributed in this way.

The conference administrators, and the local organising committee, have all worked extremely hard to bring the conference to a high level of organisation. In this context, we would like to thank Mario Kusek, Kresimir Jurasovic, Igor Ljubi, Ana Petric, Vedran Podobnik and Jasna Slavinic (University of Zagreb, Croatia); Peter Cushion, Nicola Pinkney and Antony Wood (KES Operations, UK).

A vital contribution was made by the authors, presenters and delegates without whom the conference could not have taken place. So finally, but by no means least, we thank them for their involvement.

June 2008

Bob Howlett
Ignac Lovrek
Lakhmi Jain

Organisation

KES 2008 Conference Organisation

KES 2008 was organised by KES International, Innovation in Knowledge-Based and Intelligent Engineering Systems, and the University of Zagreb, Faculty of Electrical Engineering and Computing.

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KES Conference Series

KES 2008 is a part of the KES Conference Series.

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