
Editorial

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Biographical notes: Emilio Corchado is the Chairman of the IEEE SMC, Spanish Chapter and an Associated Professor of CS at the University of Salamanca, Spain. He received his PhD in CS from the University of Salamanca. His research interests centre on ANN, multiple classifier and hybrid systems. He has published around 130 publications. He is Co-editor in Chief of *IJCIR* and member of the Editorial Boards of *IJCIA* and *IJRIS*. He has also served as a Reviewer for several international journals and is a Reviewer for the 6th and 7th FP, EC. He is the General Director of HAIS, CISIS and SOCO series of conferences.

Juan M. Corchado is the Dean of the Faculty of Science at the University of Salamanca. He received his PhD in Computer Science from the University of Salamanca in 1998 and his PhD in Artificial Intelligence from the University of the West of Scotland, UK, in 2000. He is the Director of the BISITE Group and Director of the MSc Programs in E-commerce and Digital Animation of the University of Salamanca, Spain. He has worked on several AI research projects sponsored by Spanish and European public and private institutions and has supervised seven PhD students. He is the co-author of over 200 publications.

Ajith Abraham received his PhD from Monash University, Australia. He works in a multidisciplinary environment involving computational intelligence, data mining, medical informatics, etc. He has published over 600 publications and given more than 40 plenary lectures and tutorials in these areas. Currently, he works with the Norwegian University of Science and Technology, Trondheim,

Norway. He is currently serving or has served the Editorial Board of over 50 international journals and is also the Co-Editor in Chief of *International Journal of Computational Intelligence in Bioinformatics and Systems Biology*.

This special issue includes a selection of papers presented at the 2nd International Workshop on Hybrid Artificial Intelligence Systems (HAIS 2007), carried out at the University of Salamanca, Spain. The three papers selected present a different approach about the bioinformatics field. The papers present novel models that combine symbolic and subsymbolic techniques to construct more robust and reliable problem solving models applied to bioinformatics or biotechnology environments.

Bioinformatics and medical informatics are two research fields that serve the needs of different but related communities. Both domains share the common goal to provide new algorithms, methods and technological solutions to biomedical research and contribute to the treatment and cure of diseases. While bioinformatics has been traditionally focused on the intersection between computer science and biological research, medical informatics has been centred on the intersection between computer science and clinical medicine. In this context, recent studies have shown how biomedical informatics has emerged as a new area to describe the technology that brings both disciplines together to support genomic medicine.

Hybrid intelligent systems are becoming popular due to their capabilities in handling many real world complex problems, involving imprecision, uncertainty and vagueness, high-dimensionality. They provide us with the opportunity to use both, our knowledge and raw data to solve problems in a more interesting and promising way. This multidisciplinary research field is in continuous expansion in the artificial intelligence research community.

It is commonly accepted that there are two parts to health sciences, the study, research and knowledge of health and the application of that knowledge to improve health, cure diseases and understand how humans function. This configuration (theory elicitation and theory application) is analogous with the know-how managed by physicians that apply a mixture of objective knowledge and subjective knowledge. The global purpose of HAIS conferences has been to provide a broad and interdisciplinary forum for hybrid artificial intelligence systems and associated learning paradigms, which are playing increasingly important roles in an important number of applications fields. These application intelligence bases models are been used intensively for the resolution on bioinformatics problems with success. This issue meant to be an overview of the possibilities offered by the AI community in the resolution of distributed problems, classification, prediction, pre-processing or data dimension reduction. This special issue also presents an ambient intelligent model developed with hybrid artificial intelligent systems. Such distributed biotechnology applications is an innovative solution to provide medical care to dependent people that may be embedded in any administration system of a hospital or medical centre.