



16th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems – KES 2012

10, 11 & 12 September 2012

San Sebastián, Spain

Conference Programme

vicomtech

IK4  Research Alliance



Universidad
del País Vasco



Euskal Herriko
Unibertsitatea



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Welcome Message

Information processing has become a pervasive phenomenon in our civilization. Massive access to information resources and their use as intelligent systems in everyday applications is advantaged by the most recent research in information technologies. While the majority of information processing is becoming intelligent in a very broad sense, major research in semantics, artificial intelligence and Knowledge Engineering supports the domain specific applications that are becoming more and more present in our everyday living. Intelligent Systems are present in a wide range of situations that include facets of simple everyday actions and sometimes not so simple aspects such as transport systems and even the medical domain. Digital news, socialization of relations, and enhancements derived from the handling of expert decisions are but a few examples of everyday applications.

Ontologies play a major role in the development of knowledge engineering in various domains, from semantic web down to the design of specific decision support systems. They are used for the specification of natural language semantics, information modelling and retrieval in querying systems, geographical information systems, medical information systems, the list is growing continuously. Ontologies allow easy modelling of heterogeneous information, flexible reasoning for the derivation of consequents or the search of query answers, specification of a priori knowledge, increasing accumulation of new facts and relations, i.e. reflexive ontologies. Therefore, they are becoming key components of adaptable information processing systems. Classical problems such as ontology matching or instantiation, has new and more complex formulations and solutions, involving a mixture of underlying technologies, from traditional logic up to fuzzy logic. Research on ontologies and their applications is a highly active front of current computational intelligence science.

Much of modern machine learning has become a branch of statistics and probabilistic system modelling. The Bayesian paradigm is becoming dominant, because it allows the formulation of elegant chains of reasoning to deal with uncertainty. Linear approaches to feature extraction and enrichments for discriminant systems have also a surprising revival from the hand of kernel theory and Bayesian sparse modelling. In the background, the establishment of

a sound methodology to assess the value of the systems is a continuous endeavour that is also strongly anchored in statistics. , approaches based on nature-inspired computing, such as artificial neural networks, have a broad application and are subject of active research.

A very specific new branch of developments is that of Lattice Computing, gathering works under a simple heading “use lattice operators as the underlying algebra for computational designs”. A traditional area of research that falls in this category is Mathematical Morphology as applied to image processing, where image operators are designed on the basis of maximum and minimum operations, a long track of successful applications support the idea that this approach could be fruitful in the framework of intelligent system design. The fruits have been innovative associative memories, image feature extraction and classification algorithms, which include lattice based techniques to manipulate heterogeneous information sources.

For more than 15 years, KES International and its annual organized events, have served as a platform for sharing the latest developments in Intelligent Systems. Organized by the Computational Intelligence Group of the University of the Basque Country and the computer graphics leading institute Vicomtech- IK4, the 16th Annual KES conference¹, was held in the beautiful city of San Sebastian in the north of Spain. The conference features the best contributions received and presented by leading experts all over the world who joined us to share their latest achievements in this domain. The quality of these contributions clearly show that knowledge engineering is more than a trendy topic, but a continuous living and evolving set of technologies aimed to the improve the design and understanding of systems and their relations with humans.

Prof. Manuel Graña

Dr. Jorge Posada

Prof. Lakhmi C. Jain

Prof. Robert J. Howlett

Dr. Carlos Toro

Prof. Alfredo Cuzzocrea

¹ <http://kes2012.kesinternational.org>

Organization



Prof. Manuel Graña
University of the Basque
Country, Spain
*General Chair and
Programme Co-Chair*



Dr. Jorge Posada
Vicomtech-IK4 Research
Centre, Spain
General Chair



Prof. Lakhmi C. Jain
University of South
Australia, Australia
General Chair



Prof. Robert J. Howlett
Bournemouth University,
UK
Executive Chair



Dr. Carlos Toro
Vicomtech-IK4 Research
Centre, Spain
Programme Co-Chair



Prof. Alfredo Cuzzocrea
University of Calabria, Italy
Programme Co-Chair

Organizers

KES 2012 is hosted and organized by the University of the Basque Country (UPV/EHU)², the Computational Intelligence Group³ and Vicomtech-IK4 Research Centre⁴.

The conference is being held at the Palacio Miramar and Hotel Costa Vasca in San Sebastián-Donosti (Spain), on September 10th-12th, 2012.

University of the Basque Country (UPV/EHU)

The University of the Basque Country is a teaching and research institution officially founded in 1985. The university employs over 7,000 people throughout 31 faculties and schools geographically distributed in three campuses with over 50,000 undergraduate and postgraduate students. The UPV/EHU is the Spanish University offering the highest number of degrees, one third of these degrees having a quality mention from the Spanish Ministry of Education.

UPV/EHU is not only one of the leading universities in Spain according to a recently published ranking (www.webometrics.info) but also one of the leading universities in the European area for the quality of its teaching, its commitment to continuous training and the excellence of its research, development and innovation. It holds agreements with more than 400 international universities. The UPV/EHU has 107 departments teaching about 78 courses up to the second cycle level.

Computational Intelligence Group

The Computational Intelligence Group research activities focus on the application of techniques of Artificial intelligence, based on bio-inspired and statistical techniques, to diverse aspects of perception and control systems. Those techniques include algorithms of clustering and vector quantization, neuronal networks, Hidden Markov Models, classification supervised algorithms, reinforcement learning and image processing. The applications range from advanced man-machine interaction systems, control of multi-robot

2 <http://www.ehu.es>

3 <http://www.ehu.es/computationalintelligence>

4 <http://www.vicomtech.es/>

systems, remote sensing image analysis, medical image and medical data processing, with a current emphasis in neurosciences applications. The group has hosted two previous international conferences: IWANN 2007, HAIS 2010.

Vicomtech-IK4 Research Centre

Vicomtech-IK4 (Visual Interaction and Communication Technologies Centre) is an applied research centre for Interactive Computer Graphics and Multimedia located in the technology Park of San Sebastián (Spain).

Vicomtech-IK4 is a member of the IK4 Research Alliance, which is composed of 9 leading Basque technological centres. In the same way, Vicomtech-IK4 also belongs to the international **GraphicsMedia.net**, composed of several international prestigious applied research centres. All of its members work on Computer Graphics and Multimedia technologies, which gives the net an internationalization active and strategic profile to its research activity.

Vicomtech-IK4's aim is to fulfill the innovation needs of the companies and institutions. For this, the Centre

- works in applied research and development of multimedia technologies for visual interaction and communication;
- fosters the mobility and formation of researchers;
- collaborates tightly with the industry, universities and institutions, and complements other technology centres.

Vicomtech-IK4's research profile is to serve as a bridge between the local and the international environments. This philosophy of applied research helps the local companies to have new opportunities to access a worldwide environment, and to benefit from the latest technological advances in the international context. At the same time, Vicomtech-IK4's participation in international projects complements and improves the main local activity of applied research.

Vicomtech-IK4 pursues to contribute to the general knowledge hosting co-chairing International Conferences, and fostering the training of young researchers, through the publication of results in renowned international journals and conferences.

Executive Committee

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Prof. Manuel Graña	University of the Basque Country, Spain
Dr. Jorge Posada	Vicomtech Research Centre, Spain
Prof. Lakhmi C. Jain	University of South Australia, Australia

Executive chair

Prof. Robert J. Howlett	Bournemouth University, UK
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Programme co-chairs

General Track Coordinator

Prof. Manuel Graña	University of the Basque Country, Spain
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Special Sessions Coordinators

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Prof. Alfredo Cuzzocrea	University of Calabria, Italy
Prof. Manuel Graña	University of the Basque Country, Spain

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Australia:

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Germany:

Prof. Dr. Udo Seiffert	Fraunhofer-Institute IFF Magdeburg, Germany Biosystems Engineering, Germany
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Italy:

Prof. Germano Resconi	Catholic University, Brescia, Italy
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Poland:

Prof. Maria Ganzha University of Gdansk, Poland

United Kingdom:

Dr. Lyudmila Mihaylova Lancaster University, UK

USA:

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Dr. Miguel A. Vezanzones University of the Basque Country, Spain

Track Chairs

Generic Topics

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
GT01	Artificial Neural Networks, Connectionists Systems and Evolutionary Computation	Prof. Bruno Apolloni University of Milan, Italy <i>apolloni@dsi.unimi.it</i>
GT02	Machine Learning and Classical AI	Prof. Floriana Esposito University of Bari, Italy <i>esposito@di.uniba.it</i>
GT03	Agent and Multi-Agent Systems	Prof. Ngoc Thanh Nguyen Wroclaw University of Technology, Poland <i>ngoc-thanh.nguyen@pwr.wroc.pl</i>
GT04	Knowledge Based and Expert Systems	Prof. Anne Hakansson Royal Institute of Technology, Sweden <i>annehak@kth.se</i>

Application Topics

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
GT05	Intelligent Vision, Image Processing and Signal Processing	Prof. Tuan D. Pham The University of Aizu, Japan <i>t.pham@adfa.edu.au</i>

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
GT06	Knowledge Management, Ontologies and Data Mining	Prof. Ron Hartung Franklyn University, USA <i>ronhartung@hotmail.com</i>
GT07	Web Intelligence, Text and Multimedia Mining and Retrieval	Prof. Andreas Nuernberger University of Magdeburg, Germany <i>andreas.nuernberger@ovgu.de</i>
GT08	Intelligent Robotics and Control	Dr. Honghai Liu University of Portsmouth, UK <i>honghai.liu@port.ac.uk</i>
GT09	Intelligent Tutoring Systems and E-Learning Environments	Prof. Toyohide Watanabe Nagoya University, Japan <i>watanabe@is.nagoya-u.ac.jp</i>

Other Topics

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
GT10	Other / Misc. Intelligent Systems Topics	Dr. Carlos Toro Vicomtech-IK4 Research Centre, Spain <i>ctoro@vicomtech.org</i>

Invited Sessions

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
IS03	Knowledge-Based Systems for e-Business	Chair: Professor Kazuhiko Tsuda, The University of Tsukuba, Tokyo, Japan Co-chaired by Dr Nobuo Suzuki, KDDI Corporation, Japan Co-chaired by Professor Masakazu Takahashi, University of Gumma, Japan
IS05	Skill Acquisition and Ubiquitous Human Computer Interaction	Chair: Prof. Hirokazu Taki, Wakayama University, Japan Co-chaired by Ass. Prof. Masato Soga, Wakayama University, Japan
IS08	Intelligent monitoring and high-level activity interpretation using multisensory systems	Chair: Prof. Antonio Fernández-Caballero, Universidad de Castilla-La Mancha, Spain Co-chaired by Ass. Prof. Rafael Martínez-Tomás, Universidad Nacional de Educación a Distancia, Spain
IS09	Social Knowledge Support Infrastructure for Human Activity and Creativity	Chair: Asst. Prof Naoto Mukai, Sugiyama Jo-gakuen University, Japan Co-chaired by Assoc. Prof. Taketoshi Ushima, Kyushu University, Japan Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan
IS10	Learning Support for Intelligence: Functionality and Environment	Chair: Assoc. Prof. Tomoko Kojiri, Kansai University, Japan Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
IS11	Population-based metaheuristics	Chair: Prof. Piotr Jędrzejowicz, Gdynia Maritime University, Poland Co-chaired by Dr. Ireneusz Czarnowski, Gdynia Maritime University, Poland
IS12	Advanced Knowledge-based Systems	Chair: Professor Alfredo Cuzzocrea, University of Calabria, Italy
IS14	Reasoning-based Intelligent Systems	Chair: Prof. Kazumi Nakamatsu, University of Hyogo, Japan Co-chaired by Prof. Jair Minoru Abe, Paulista University, Brazil
IS16	Knowledge Engineering Solutions for Biomedical Applications	Chair: Prof. Gloria Bueno, Universidad de Castilla-La Mancha, Spain Co-chaired by Dr. Grégory Maclair, Vicomtech IK4, Research Centre, Spain Co-chaired by Carlos Parra, Hospital Universitario Virgen del Rocío, Spain
IS17	Recent trends in knowledge Engineering, Smart Systems and their applications	Chair: Dr. Cesar Sanín, University of Newcastle, Australia Co-chaired by Dr. Carlos Toro, Vicomtech-IK4 Research Centre, Spain Co-chaired by Prof. Edward Szczerbicki, University of Newcastle, Australia
IS18	Ontologies for decision-making	Chair: Dr Cecilia Zanni-Merk, BFO team, University of Strasbourg, France Co-chaired by Dr Gregory Zacharewicz, GRAI, University of Bordeaux 1, France

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
IS19	Chance Discovery	Chair: Prof. Akinoro Abe, IREIIMS University, Japan Co-chaired by Prof. Yukio Ohsawa, Univ. of Tokyo, Japan
IS20	Innovation and Automation using MAS	Chair: Dr. Jeffrey W. Tweedale, Defence Science and Technology Organisation / University of South Australia Co-chaired by Prof. Lakhmi Jain, University of South Australia
IS21	Computational Intelligence in Multimedia Processing	Chair: Prof. Otoniel Mario López Granado, Universidad Miguel Hernández, Spain Co-chaired by Prof. Adriana Dapena Janeiro, Universidade Da Coruña, Spain Co-chaired by Prof. Nicolás Guil Mata, Universidad de Málaga, Spain
IS22	Knowledge-Based Intelligent System and Application	Chair: Prof. Yuji Iwahori, Chubu University, Japan Co-chaired by Prof. Yoshinori Adachi, Chubu University, Japan Co-chaired by Prof. Nobuhiro Inuzuka, Nagoya Inst. of Technology, Japan
IS23	Intelligent Network and Service	Chair: Prof. Jun Munemori, Wakayama University, Japan Co-chaired by Prof. Takaya Yuizono, Japan Advanced Institute Science and Technology, Japan

Code	Track Title	Track Chair
IS24	Ontology-based Information Retrieval	Chair: Dr. Antonio Moreno, University Rovira i Virgili (URV), Spain Co-chaired by Dr. Hajer Baazaoui, University of La Manouba, Tunisia Co-chaired by Dr. Aida Valls, University Rovira i Virgili (URV), Spain Co-chaired by Nesrine Ben Mustapha, University of La Manouba, Tunisia
IS25	Intelligent solutions in network economy and manufacturing	Chair: Dr. Arkadiusz Kawa, Poznan University of Economics Co-chaired by Dr. Pawel Pawlewski, Poznan University of Technology
IS26	Soft Computing Techniques and Their Intelligent Utilizations Toward Gaming, Stock Markets, Robotics, etc.	Chair: Prof. Norio Baba, Kansai University, Osaka Kyoiku University, Japan
IS27	Affective Engineering and Management Engineering Approaches to the Restructuring of Aging Society	Chair: Prof. Hisao Shiizuka, Kogakuin University, Japan Co-chaired by Prof. Junzo Watada, Waseda University, Japan
IS28	Data Mining and Service Science for Innovation	Chair: Prof. Katsutoshi Yada, Kansai University, Japan Co-chaired by Prof. Takahira Yamaguchi, Keio University, Japan

<i>Code</i>	<i>Track Title</i>	<i>Track Chair</i>
IS30	Second workshop on Hyperspectral image processing, intelligent systems for remote sensing and High Performance Computing	<p>Chair: Prof. Manuel Graña, University of the Basque Country</p> <p>Co-chaired by Prof. Richard Duro, University de A Coruña, Spain</p> <p>Co-chaired by Prof. Antonio Plaza, University de Extremadura, Spain</p> <p>Co-chaired by Prof. Alicia d'Anjou, University of the Basque Country</p> <p>Co-chaired by Prof. Dora Blanco Heras, University of Santiago de Compostela, Spain</p>
IS31	Knowledge engineering and computational intelligence in medical image and medical data processing	<p>Chair: Prof. Manuel Graña, University of the Basque Country</p> <p>Co-chaired by Alexandre Savio, University of the Basque Country</p> <p>Co-chaired by Darya Chyzyk, University of the Basque Country</p>

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Name

Prof. Guangquan Zhang

Dr. Beata M Zielosko

Affiliation

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similar techniques to address real world complexities.

<http://www.softcomputing.org/>

Keynote Speakers

Keynote 1: Dr. Belur V. Dasarathy

Monday 10th September 2012

PM-A, 9:00h-10:00h



Dr. Belur V. Dasarathy

Information Fusion and Decision Systems Technologies

Title: “Information Fusion in the Context of Social Robotic”

Abstract:

This keynote address will offer an overview of the field of multi-sensor, and/or multi-source information fusion in the context of social robotics - a relatively new domain of activity in the long established field of robotics. Central to the developments in the area of social robotics is the ability to have reliable, robust, safe, near-instantaneous human-robot interaction. Just as humans process and fuse information from the five senses vision, audition, taction, olfaction and gustation, it is possible to envisage the fusion of information by the robot from its multiple sensors and sources. For human-robot interaction to be efficacious in successful deployment of social robots, it is necessary to have matching information fusion capability inculcated in the social robot being designed for interacting with the human. This overview of how information fusion can aid the development of social robots is presented through the mode of addressing the questions of what, why, when, and how, of information fusion in the context of such human-robot interaction.

Biography:

Dr. Belur V. Dasarathy, an IEEE Fellow, is an independent consultant offering services to commercial and government clients in the design and development of automated intelligent decision systems arising in a variety of applications. His expertise includes guidance, teaching, research and development (R&D) and R&D management in the areas of intelligent decision systems, learning

systems, multi-sensor multi-source information fusion, knowledge discovery through pattern recognition and data mining, image analysis and other related topics. His prior professional full-time affiliations have included Dynetics, Inc., Intergraph Corp., Computer Sciences Corp., Indian Institute of Science, Southern Methodist University, as well as adjunct positions at University of Alabama in Huntsville.

He has been an invited speaker at many international conferences over the past decade such as 2008 International Conference on Aerospace Science and Technology, India; 2008 Indo-US Workshop on Regional Air Transportation, India; The 2nd International Conference on Information Security and Assurance, 2008, Korea; 2007 Future Generation Communication and Networking, Korea; 2006 IDGA Conference on Night Vision Systems, Washington, DC; 2006 IEEE Intl Conf on Multisensor Fusion and Integration for Intelligent Systems, Germany; 2006 Biologically Inspired Information Fusion, UK; ISSNIP'04 Australia; International Conference on Human-Machine Interface ICHMI'04, India; IEEE International Conference on Computational Cybernetics ICC'04 Austria; The 11th International Conference on Advanced Robotics, ICAR Portugal; International Workshop on Information Fusion 2002, China; IX Spanish Symposium on Pattern Recognition and Image Processing 2001, Spain; IEEE International Conference on Industrial Technology, ICIT 2000, India; International Conference on Applications of Pattern Recognition 1998, England.

He is the founding Editor-in-chief of the International Journal on Information Fusion published by Elsevier Science, the very first journal dedicated to this evolving field. He has offered short courses in the information fusion arena under SPIE and other conference sponsorships as well as under individual company/ University/ Organization sponsored on-site programs.

Dr. Dasarathy was honored as the IEEE Huntsville Section Outstanding Engineer 1996, IEEE Region 3 Outstanding Engineer for 1997 and a recipient of the IEEE Third Millennium Medal. He was one of the founding members of the board of directors of the International Society on Information Fusion (ISIF) and served on it for three years. He was the guest editor of Optical Engineering for three special sections on Sensor Fusion. From 1997 to 2009, he has been the organizer and chairman of two annual SPIE Conferences on multi-sensor, multi-source information fusion and data mining, intrusion detection &

network security. He was the publicity chair for the International conferences on Information Fusion - Fusion 1998, Fusion 1999, Fusion 2001, a member of the executive committee of Fusion 2000, and is a member of the International Program committee for Fusion 2003. He has organized and chaired special sessions on Information Fusion and Data Mining at other conferences including IEEE Decision and Control 1998, International Joint Conference on Neural Networks 1999, IGARSS 2000, IECON-2000. He has been a member of the Scientific Committee for the annual workshop on Multiple Classifier Systems since 2000 including the one to be held in 2003. He was also the technical vice-chair for Autotestcon 2002.

Dr. Dasarathy has over 180 open literature publications with him as primary author in majority of these publications. He is the author of three IEEE Computer Society Press books: Decision Fusion, Nearest Neighbor (NN) Norms: NN Pattern Classification Techniques, and Image Data Compression: Block Truncation Coding. He has also contributed chapters/sections to other books, including one in the handbook on Data Mining and Knowledge Discovery (Oxford University Press, 2002). His publications have been cited in the literature in over 400 studies.

His biographical citations include: "WHO' WHO" in Computer Graphics," Marquis, 1984; "Personalities of the South," American Biographical Institute, 1986; Who's Who in Technology Today," Dick Publishing 5th Edition; "Who's Who in the South and Southwest," 22nd Edition, 1991; "The Official Registry of the Who' Who of American Business Leaders," 1991; and International Who's Who in Information Technology, 1999.

Keynote 2: Prof. Guang-Bin Huang

Monday 10th September 2012

PM-A, 13:30h-14:30h



Prof. Guang-Bin Huang

Nanyang Technological University, Singapore

Title: “Extreme Learning Machine: One Step towards Human Brain Alike Learning”

Abstract:

Neural networks (NN) and support vector machines (SVM) play key roles in machine learning and data analysis in the past 2-3 decades. However, it is known that these popular learning techniques face some challenging issues such as: intensive human intervene, slow learning speed, poor learning scalability. This talk will introduce a new learning technique referred to as Extreme Learning Machine (ELM). ELM not only learns up to tens of thousands faster than NN and SVMs, but also provides unified implementation for regression, binary and multi-class applications. ELM not only produces good results for sparse datasets but also is efficient for large size of applications. From both theoretical and practical points of view, NN and SVM/LS-SVM may only produce suboptimal solutions to ELM. ELM is efficient in time series, online sequential, incremental applications. More and more researchers are studying ELM and its potential applications in face recognition, EEG signal processing, brain computer interface, medical image processing, bioinformatics, disease prediction/detection, object recognition, knowledge discovery, semantic web, hardware implementation, cloud computing, etc.

Biography:

Guang-Bin Huang received the B.Sc degree in applied mathematics and M.Eng degree in computer engineering from Northeastern University, P R. China, in 1991 and 1994, respectively, and Ph.D degree in electrical engineering from Nanyang Technological University, Singapore in 1999. During undergraduate

period, he also concurrently studied in Applied Mathematics department and Wireless Communication department of Northeastern University, P. R. China.

From June 1998 to May 2001, he worked as Research Fellow in Singapore Institute of Manufacturing Technology (formerly known as Gintic Institute of Manufacturing Technology) where he has led/implemented several key industrial projects (e.g., Chief architect/designer and technical leader of Singapore Changi Airport Cargo Terminal Upgrading Project, etc). From May 2001, he has been working as an Assistant Professor and Associate Professor (with tenure) in the School of Electrical and Electronic Engineering, Nanyang Technological University. His current research interests include machine learning, computational intelligence, extreme learning machine, pattern recognition, games, and human/brain computer interface. He has been invited to give keynote speeches and talks in international conferences and top-ranked universities. He served as General Chairs and Plenary Chairs in different international conferences. He was Program Chair of IEEE TENCON2009 (IEEE Region 10 flagship conference with 550+ registered participants). He serves as an Associate Editor of Neurocomputing and IEEE Transactions on Systems, Man and Cybernetics - Part B. He is a senior member of IEEE.

Keynote 3: Prof. Edward Szczerbicki

Monday 10th September 2012

PM-A, 16:15h-17:15h



Prof. Edward Szczerbicki

University of Newcastle, Australia

Title: “Set of Experience and Experiential Decisional DNA”

Abstract:

Typically, decisional experiences are not stored, unified, improved, reused, shared, or distributed. This fact motivated the research outlined in this presentation that aims at capturing, improving and reusing the vast amount of knowledge amassed in past decisional experience. We illustrate our

approach with a number of case studies and implementations in industry, banking, medicine, and energy.

In nature, deoxyribonucleic acid (DNA) contains the genetic instructions used in the development and functioning of all known living organisms. The idea behind our research is to develop an artificial system, an architecture that would support discovering, adding, storing, improving and sharing information and knowledge among agents and organisations through experience. We propose a novel Knowledge Representation (KR) approach in which experiential knowledge is represented by Set of Experience (SOE), and is carried into the future by Decisional DNA (DDNA). Using SOE and DDNA, we further establish principles and the concept of Technological Trust and global e-Decisional Collaborative Community.

This research has enormous and exciting potential of opening entirely new and so far not conceptually conceived scientific horizons. With fully developed Decisional DNA embedded in Knowledge Cloud we would be able to pursue directions of research and implementations similar to those that set today the ground breaking research frontiers in genetic engineering. We would be able, by studying and "improving" Decisional DNA of man-built systems, to enhance systems performance, improve quality of operation, services, and products, avoid disasters by eliminating "bad decisional genes", predict operations of mergers and integrations by combining the individual Decisional DNA, clone systems that perform best, rebuild systems that stopped to operate but their Decisional DNA was stored. This research has the potential of opening up a new global market - Knowledge Market with services changing our individual and communal lives.

Biography:

Prof Szczerbicki has had very extensive experience in the area of intelligent systems development over an uninterrupted 30 year period, 20 years of which he spent in the top systems research centers in the USA, UK, Germany, and Australia. In this area he contributed to the understanding of information and knowledge management in systems operating in environments characterized by informational uncertainties and dynamics. He has published 300+ refereed papers which attracted close to 600 citations. His DSc degree (1993) and the Title of Professor (2006) were gained in the area of information science for his international published contributions. The research of prof. Szczerbicki

contributes significantly to the area of smart information use in modeling and development of intelligent systems. With his papers published in the beginning of the nineties in "IEEE Transactions on Systems, Man and Cybernetics" he developed autonomous systems based on information processing for the purposes of intelligent decision support. This was his unique contribution to the emerging cross-disciplinary researches area of smart decisional support for which information and knowledge have a value, are treated as a resource, and are the basis for intelligent decision making. Prof. Szczerbicki was invited to serve as a Board Member of International Academic Advisory Council for Natural and Artificial Intelligence Systems Organization (NAISO), Canada. He was also invited to join Editorial Boards of a number of cognitive, systems, and knowledge engineering related international journals. His academic experience includes ongoing positions with Gdansk University of Technology, Gdansk, Poland; Strathclyde University, Glasgow, Scotland; The University of Iowa, Iowa City, USA; University of California, Berkeley, USA; and The University of Newcastle, Newcastle Australia.

Keynote 4: Prof. Maja Pantic

Tuesday 11th September 2012

PM-A, 9:00h-19:00h



Prof. Maja Pantic

Imperial College London, UK

Title: "Machine Understanding of Human Behaviour"

Abstract:

A widely accepted prediction is that computing will move to the background, weaving itself into the fabric of our everyday living spaces and projecting the human user into the foreground. To realize this prediction, next-generation computing should develop anticipatory user interfaces that are human-centred, built for humans, and based on naturally occurring multimodal human behaviour such as affective and social signaling.

This talk discusses a number of components of human non-verbal behavior like facial expressions and vocal outbursts, and a number of specific behaviors like affective states and social signals, how they can be automatically sensed and analysed by computer, what is the past research in the field conducted by the iBUG group at Imperial College London, and how far we are from enabling computers to understand human behavior.

Biography:

Maja Pantic received the M.S. and PhD degrees in computer science from Delft University of Technology, the Netherlands, in 1997 and 2001. From 2001 to 2005, she was an Assistant and then an Associate professor at Delft University of Technology, Computer Science Department. In April 2006, she joined the Imperial College London, Department of Computing, UK, and continued working on machine analysis of human non-verbal behaviour and its applications to Human-Computer Interaction (HCI). In October 2010, she became Professor of Affective & Behavioural Computing and the leader of the Intelligent Behaviour Understanding Group (iBUG). From November 2006, she also holds an appointment as the Professor of Affective & Behavioural Computing at the University of Twente, Computer Science Department, the Netherlands.

In 2002, for her research on Facial Information for Advanced Interface (FIFAI), Prof. Pantic received Dutch Research Council Junior Fellowship (NWO Veni), awarded annually to 7 best young scientists in exact sciences in the Netherlands. In 2008, for her research on Machine Analysis of Human Naturalistic Behavior (MAHNOB), she received European Research Council Starting Grant, awarded annually to 2% best young scientists in any research field in Europe. In 2011, Prof. Pantic received BCS Roger Needham Award, awarded annually to a UK based researcher for a distinguished research contribution in computer science within ten years of their PhD.

Prof. Pantic currently serves as the Editor in Chief of Image and Vision Computing Journal (IVCJ), an Associate Editor for both the IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) and the IEEE Transactions on Systems, Man, and Cybernetics Part B (TSMC-B), and a member of the Steering Committee of the IEEE Transactions on Affective Computing (TAC). She is also a member of the IEEE Systems, Man and Cybernetics Society Board of Governors. She was and is the organizer of

several conferences including IEEE SMC 2004, IEEE FG 2008 and 2013, and ACII 2009, and she is the initiator and co-organiser of both CVPR for Human Communicative Behaviour Analysis (CVPR4HB 2008-2011) and Social Signal Processing Workshop (SSPW 2009-2011). Maja Pantic published more than 150 technical papers in the areas of machine analysis of facial expressions and emotions, machine analysis of human body gestures, and human-centered HCI. She has more than 4500 citations to her work, and has served as the Key Note Speaker, Chair and Co-Chair, and an organization/ program committee member at numerous conferences in her areas of expertise. For more info, see: <http://ibug.doc.ic.ac.uk/~maja/>

Keynote 5: Prof. Antonio Plaza

Tuesday 11th September 2012

PM-A, 13:30h-14:30h



Prof. Antonio Plaza

University of Extremadura, Spain

Title: “High Performance Computing Systems for Intelligent Information Extraction from Remotely Sensed Hyperspectral Images”

Abstract:

The incorporation of latest-generation sensors to airborne and satellite platforms for remote observation of the Earth is currently producing a nearly continual stream of high-dimensional data, and this explosion in the amount of collected information has rapidly created new processing and information extraction challenges. For instance, hyperspectral signal processing is a new technique in remote sensing that generates up to thousands of spectral bands at different wavelength channels for the same area on the surface of the Earth. In recent years, several efforts have been directed towards the design advanced information extraction techniques and their efficient implementation for accelerating computations in remote sensing missions. The ultimate goal is to be able to exploit these systems in applications which require near real-time performance, such as wild land fire tracking, biological threat detection, monitoring of oil spills and other

types of chemical contamination. With the aim of providing an overview of current and new trends in parallel and distributed systems for remote sensing applications, this presentation describes several different strategies for efficient implementation and advanced information retrieval from remotely sensed hyperspectral data sets, including implementations on parallel clusters and heterogeneous networks of workstations, as well as on specialized hardware devices suitable for onboard data analysis, such as field programmable gate arrays (FPGA) and graphics processing units (GPUs). Combined, these parts deliver an excellent snapshot of the state-of-the-art in those areas, and offer a thoughtful perspective on the potential and emerging challenges of designing new systems for intelligent and computationally efficient information extraction from remotely sensed hyperspectral data.

Biography:

Antonio Plaza received the M.S. and Ph.D. degrees in computer engineering from the University of Extremadura, Caceres, Spain. He was a Visiting Researcher with the Remote Sensing Signal and Image Processing Laboratory, University of Maryland Baltimore County, Baltimore, with the Applied Information Sciences Branch, Goddard Space Flight Center, Greenbelt, MD, and with the AVIRIS Data Facility, Jet Propulsion Laboratory, Pasadena, CA. He is currently an Associate Professor with the Department of Technology of Computers and Communications, University of Extremadura, Caceres, Spain, where he is the Head of the Hyperspectral Computing Laboratory (HyperComp). He was the Coordinator of the Hyperspectral Imaging Network (Hyper-I-Net), a European project designed to build an interdisciplinary research community focused on hyperspectral imaging activities. He has been a Proposal Reviewer with the European Commission, the European Space Agency, and the Spanish Government. He is the author or coauthor of around 300 publications on remotely sensed hyperspectral imaging, including more than 60 Journal Citation Report papers, 20 book chapters, and over 200 conference proceeding papers. His research interests include remotely sensed hyperspectral imaging, pattern recognition, signal and image processing, and efficient implementation of large-scale scientific problems on parallel and distributed computer architectures. Dr. Plaza has coedited a book on high-performance computing in remote sensing and guest edited seven special issues on remotely sensed hyperspectral imaging for different journals, including the IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING (for which

he serves as Associate Editor on hyperspectral image analysis and signal processing since 2007), the IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING (for which he serves as a member of the steering committee since 2011), the International Journal of High Performance Computing Applications, and the Journal of Real-Time Image Processing. He is also serving as an Associate Editor for the IEEE GEOSCIENCE AND REMOTE SENSING NEWSLETTER. He has served as a reviewer for more than 280 manuscripts submitted to more than 50 different journals, including more than 140 manuscripts reviewed for the IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING. He has served as a Chair for the IEEE Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing in 2011. He has also been serving as a Chair for the SPIE Conference on Satellite Data Compression, Communications, and Processing since 2009, and for the SPIE Remote Sensing Europe Conference on High Performance Computing in Remote Sensing since 2011. Dr. Plaza is a recipient of the recognition of Best Reviewers of the IEEE GEOSCIENCE AND REMOTE SENSING LETTERS in 2009 and a recipient of the recognition of Best Reviewers of the IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING in 2010. He is currently serving as Director of Education activities and member of the Administrative Committee of the IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY.

Keynote 6: Prof. Emilio S. Corchado

Tuesday 11th September 2012

PM-A, 16:15h-17:15h



Prof. Emilio S. Corchado

University of Salamanca, Spain

Title: “Unsupervised Models for Industrial Applications”

Biography:

Emilio S. Corchado is an Associate Professor of Computer Science at University of Salamanca.-(BISITE Research Group and GICAP Research Group). He is chair of the IEEE Systems, Man and Cybernetics-Spanish

Chapter; member of the IEEE Spanish Section Board and member of the IEEE R8 PA subcommittee. He is or was member of some European networks of Excellence as Nature-inspired Smart Information Systems (NiSIS) and COST Action IC0806: Intelligent Monitoring, Control and Security of Critical Infrastructure Systems (IntelliCIS). He is reviewer and evaluator for the European Commission for the 7FP since 2007.

His research interests include neural networks, with a particular focus on exploratory projection pursuit, maximum likelihood hebbian learning, self-organising maps, multiple classifier systems and Hybrid Artificial Systems and its applications to industrial and environmental problems. He has published over 200 peer-reviewed articles in a range of topics from modelling of industrial processes, knowledge management and risk analysis, intrusion detection systems, food industry, artificial vision, and so on.

He is member of the Editorial Boards of the International Journal of Computational Intelligence and Applications (IJCIA) and also of the International Journal of Reasoning-based Intelligent Systems (IJRIS). Dr. Corchado is guest editors of several special issues of reputed journals as Information Science (Elsevier), Knowledge and Information Systems (Springer), Neurocomputing (Elsevier), International Journal of Neural Systems (World Scientific), Logic Journal Of the IGPL (Oxford Journals), Neural Networks World (Institute of Computer Science AS CR and Faculty of Transportation Sciences), Expert Systems (Wiley-Blackwell). He is general chair for the following conferences: International Conference on Hybrid Artificial Intelligence Systems (HAIS), International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO) and International Conference on Computational Intelligence in Security for Information Systems (CISIS). He has given plenary talks at several international conferences and been visiting professor at universities in Poland and Czech Republic.

Keynote 7: Dr. Ajith Abraham

Wednesday 12th September 2012

PM-A, 9:00h-10:00h



Prof. Ajith Abraham

**Machine Intelligence Research Labs (MIR Labs),
USA**

Title: “Data + Evolving Representations = Intelligent Systems”

Biography:

Ajith Abraham received the Ph.D. degree in Computer Science from Monash University, Melbourne, Australia. He is currently the Director of Machine Intelligence Research Labs (MIR Labs), Scientific Network for

Innovation and Research Excellence, USA, which has members from more than 85 countries. He has a worldwide academic and industrial experience of over 20 years. He works in a multidisciplinary environment involving machine intelligence, network security, various aspects of networks, e-commerce, Web intelligence, Web services, computational grids, data mining, and their applications to various real-world problems. He has numerous publications / citations (h-index 40) and has also given more than 50 plenary lectures and conference tutorials in these areas.

Since 2008, he is the Chair of IEEE Systems Man and Cybernetics Society Technical Committee on Soft Computing and a Distinguished Lecturer of IEEE Computer Society representing Europe (since 2011). Dr. Abraham is a Senior Member of the IEEE, the Institution of Engineering and Technology (UK) and the Institution of Engineers Australia (Australia), etc. He is the founder of several IEEE sponsored annual conferences, which are now annual events. More information at: <http://www.softcomputing.net>

Keynote 8: Prof. Peter Sussner

Wednesday 12th September 2012

PM-A, 13:30h-14:30h



Prof. Peter Sussner

University of Campinas, Brazil

Title: “An Overview of Morphological Neural Networks”

Abstract:

Morphological neural networks (MNNs) were devised by incorporating concepts of mathematical morphology (MM) into artificial neural networks. Specifically, an MNN is often defined as a type of artificial neural network that performs an operation of mathematical morphology at every node, possibly followed by the application of an activation function. The reasons why several models of MNNs employ operations of the mathematical theory of minimax algebra are twofold: First of all, classical grayscale MM (umbra approach) can be embedded into minimax algebra. Secondly, minimax algebra grants an easy access to the definition of real-valued weights in MNNs. There are two viewpoints on MM that have heavily influenced the development of morphological neural networks and their learning algorithms: From the geometrical or topological perspective, MM represents a theory for processing and analyzing objects, i.e., images or signals, by means of other objects called structuring elements. From the lattice-algebraic perspective, MM is a theory of operators on complete lattices that has recently been extended to complete inf-semilattices.

This talk presents an overview of MNNs and briefly addresses some applications in classification, pattern recognition, image and signal processing, computer vision, and prediction. Furthermore, we will discuss the underlying mathematical lattice structures for different types of MNNs. Thus far, the majority of MNN models is based on grayscale MM, i.e., on minimax algebra, and fuzzy MM. In the near future, the development of MNNs should benefit from recent extensions of fuzzy MM since interval Type-2 and intuitionistic fuzzy sets have become increasingly important in rule-based systems for

applications in engineering and computing with words as well as in approximate reasoning. The lattice-ordering of other classes of information granules offers additional prospects for MNNs in granular computing.

Biography:

Peter Sussner is an associate professor at the Department of Applied Mathematics, University of Campinas, Brazil. where he will head the Mathematical Imaging and Computational Intelligence Group by the end of 2012. He also acts as a researcher for CNPq, the Brazilian National Science Foundation, and holds a membership of the IEEE Computational Intelligence Society. In addition, he was recently awarded funding from FAPESP, the research foundation of the State of São Paulo, for a research project on methods of computational intelligence and image processing based on mathematical morphology and lattice algebra. He previously worked as a research assistant and visiting professor at the Center of Computer Vision and Visualization at the University of Florida where he completed his Ph.D. in mathematics - partially supported by a Fulbright Scholarship - in 1996.

Peter Sussner has (co)authored more than a hundred articles in prestigious international journals, book chapters, and conference proceedings in the areas of artificial neural networks, fuzzy systems, computer vision, global optimization, mathematical morphology and lattice algebra. His work has received over 500 citations in the ISI Web of Science database. He serves as a reviewer for more than twenty scientific journals and is currently a member of the editorial board of the Journal of Mathematical Imaging and Vision.

His research interests include computational intelligence, mathematical morphology, and lattice algebra with an emphasis on the following topics: foundations of mathematical morphology in lattice theory, extensions of fuzzy mathematical morphology and applications in image processing, computational intelligence based on lattice theory, morphological neural networks, applications in pattern recognition and prediction.

Programme Schedule

Time	Sunday 9th September, 2012					
17:00h	Early registration					
19:00h	Welcome cocktail					
Time	Monday 10th September, 2012					
8:30h	Opening of the conference					
9:00h	Keynote 1: Dr. Belur Dasarathy					
10:00h	Coffee					
10:20h	Session 1					
	GT05	IS03-I	IS05	IS16	IS17-I	IS24
12:20h	Lunch					
13:30h	Keynote 2: Prof. Guang Bin Huang					
14:35h	Session 2					
	GT06-I	IS03-II	IS17-II	IS27	IS28-I	IS31-I
15:55h	Coffee					
16:15h	Keynote 3: Prof Edward Szczerbicki					
17:20h	Session 3					
	GT02	GT06-II	GT09	IS17-III	IS20	IS31-II
18:40h	End of day					

Time	Tuesday 11th September, 2012						
9:00h	Keynote 4: Prof. Maja Pantic						
10:00h	Coffee						
10:20h	Session 4						
	GT04-I	GT06-III	GT07-I	GT10-I	IS08	IS09	IS18
12:20h	Lunch						
13:30h	Keynote 5: Prof. Antonio Plaza						
14:35h	Session 5						
	GT06-IV	GT10-II	IS10-I	IS12-I	IS26-I	IS28-II	IS30-I
15:55h	Coffee						
16:15h	Keynote 6: Prof. Emilio Corchado						
17:20h	Session 6						
	GT07-II	IS10-II	IS12-II	IS25	IS26-II	IS30-II	
18:40h	End of day						
21:00h	Gala dinner						

Time	Wednesday 12th September, 2012					
9:00h	Keynote 7: Dr. Ajith Abraham					
10:00h	Coffee / Work in Progress “Groundbreaking Intelligent Systems Research” Workshop					
10:20h	Session 7					
	GT01	GT04-II	GT10-III	IS19	IS22	IS23-I
12:20h	Lunch					
13:30h	Keynote 8: Prof. Peter Sussner					
14:35h	Session 8					
	GT03-I	GT08	IS11-I	IS14-I	IS21-I	IS23-II
15:55h	Coffee / Work in Progress “Groundbreaking Intelligent Systems Research” Workshop					
16:15h	Session 9					
	GT03-II	IS11-II	IS14-II	IS21-II		
17:35h	Preview of KES 2013 – Closing of the conference					

Conference Rooms

Miramar Palace

There will be three conference rooms in the Miramar Palace, denoted as PM-A, PM-B and PM-C in the program schedule.

Coffee and beverages will be served at the coffee-break room in the Miramar Palace, denoted as PM-coffee.

The registration desk will be located in the hall of the Miramar Palace.

Costa Vasca hotel

There will be four conference rooms in the Costa Vasca hotel, denoted as CV-A, CV-B, CV-C1 and CV-C2 in the program schedule.

Lunches will be served at the lunch room in the Costa Vasca hotel, denoted as CV-lunch.

Monday 10th September 2012 Programme

8:30h-9:00h Opening of the KES 2012 conference

Venue: PM-A.

9:00h-10:00h Keynote 1: "Information Fusion in the Context of Social Robotic"

Dr. Belur V. Dasarathy.

Information Fusion and Decision Systems Technologies.

Venue: PM-A.

10:00h-10:20h Coffee Break / Work in Progress "Groundbreaking Intelligent Systems Research" Workshop

Venue: PM-coffee.

10:20h-12:20h Session 1

Venue	Details
PM-A	GT05: Intelligent Vision, Image Processing and Signal Processing. Chair: Prof. Tuan D. Pham, University of Aizu, Japan.
PM-B	IS03-I: Knowledge-Based Systems for e-Business. Chair: Prof. Kazuhiko Tsuda, University of Tsukuba, Tokyo, Japan. Co-chaired by Dr. Nobuo Suzuki, KDDI Corporation, Japan. Co-chaired by Prof. Masakazu Takahashi, University of Gumma, Japan.
CV-A	IS05: Skill Acquisition and Ubiquitous Human Computer Interaction. Chair: Prof. Hirokazu Taki, Wakayama University, Japan. Co-chaired by Ass. Prof. Masato Soga, Wakayama University, Japan.

<p>CV-B</p>	<p>IS16: Knowledge Engineering Solutions for Biomedical Applications. Chair: Prof. Gloria Bueno, Universidad de Castilla-La Mancha, Spain. Co-chaired by Dr. Grégory Maclair, Vicomtech-IK4 Research Centre, Spain. Co-chaired by Carlos Parra, Hospital Universitario Virgen del Rocío, Spain.</p>
<p>PM-C</p>	<p>IS17-I Recent trends in Knowledge Engineering, Smart Systems and their applications. Chair: Dr. Cesar Sanín, University of Newcastle, Australia. Co-chaired by Dr. Carlos Toro, Vicomtech IK4, Research Centre, Spain. Co-chaired by Prof. Edward Szczerbicki, University of Newcastle, Australia. Chair: Prof. Yuji Iwahori, Chubu University, Japan. Co-chaired by Prof. Yoshinori Adachi, Chubu University, Japan. Co-chaired by Prof. Nobuhiro Inuzuka, Nagoya Inst. of Technology, Japan.</p>
<p>CV-C1</p>	<p>IS24 Ontology-based Information Retrieval. Chair: Dr. Antonio Moreno, University Rovira i Virgili (URV), Spain. Co-chaired by Dr. Hajer Baazaoui, University of La Manouba, Tunisia. Co-chaired by Dr. Aida Valls, University Rovira i Virgili (URV), Spain. Co-chaired by Nesrine Ben Mustapha, University of La Manouba, Tunisia.</p>

GT05: Intelligent Vision, Image Processing and Signal Processing

Chair: Prof. Tuan D. Pham, University of Aizu, Japan.

[10:20h] A Novel Channel Estimation Scheme Combining Adaptive Supervised and Unsupervised Algorithms.

Adriana Dapena, Josmary Labrador, Paula M. Castro, and José A. García-Naya.

[10:40h] Reference signal cancellation in passive radar using Volterra-Wiener class filter with dynamic structure.

Pawel Biernacki.

[11:00h] Prosodic feature normalization for emotion recognition by using synthesized speech.

Motoyuki Suzuki, Shohei Nakagawa, and Kenji Kita.

[11:20h] Regularity Dimension of Medical Images.

Tuan D. Pham.

[11:40h] Automatic Scoring of Shooting Targets with Tournament Precision.

Jacek Rudzinski and Marcin Luckner.

[12:00h] Motion Detection based on Simulated Depth Measurement.

Chern Hong Lim, Alexander Kadyrov, Chee Seng Chan, and Honghai Liu.

IS03-I: Knowledge-Based Systems for e-Business

Chair: Prof. Kazuhiko Tsuda, University of Tsukuba, Tokyo, Japan.

Co-chaired by Dr. Nobuo Suzuki, KDDI Corporation, Japan.

Co-chaired by Prof. Masakazu Takahashi, University of Gumma, Japan.

[10:20h] Intelligent Tourism Information Consumption: A Push Semantic Rule-based System.

Carlos Lamsfus, David Martin, Aurkene Alzua-Sorzabal, Diego López-de-Ipiña, and Emilio Torres-Manzanera.

[10:40h] Effective Extraction Method of Loss Aversion Utterances based on the Expected Utility.

Nobuo Suzuki, Yoshikatsu Fujita, and Kazuhiko Tsuda.

[11:00h] An Information Recommendation System Focusing on Social Bookmarking.

Setsuya Kurahashi and Takahisa Shirakawa.

[11:20h] Discovering shoppers' journey in retail environment by using RFID.

Marin Vukovic, Ignac Lovrek and Hrvoje Kraljevic.

[11:40h] Building Knowledge for Characterization of the Bad Debt Customers in the Mail Order Industry with Random Forest.

Masakazu Takahashi, Hiroki Azuma, Masanori Ikeda and Kazuhiko Tsuda.

IS05: Skill Acquisition and Ubiquitous Human Computer Interaction

Chair: Prof. Hirokazu Taki, Wakayama University, Japan.

Co-chaired by Ass. Prof. Masato Soga, Wakayama University, Japan.

[10:20h] An Analysis of white and blue background-color effects on the scores of Web-based English grammar tests using near-infrared spectroscopy.

Atsuko K. Yamazaki and Kaoru Eto.

[10:40h] Project-Based Learning with Small Serendipity for Multi-cultural Digital Archive.

Taizo Miyachi, Saiko Iga, Takashi Furuhata, and Atsushi Ogiue.

[11:00h] RCA based Local Image Feature Transform and its Application to Object Recognition.

Tomoki Nishimura, Haiyuan Wu, Qian Chen, Hirokazu Taki.

[11:20h] Message reply method by making use of node location advertisement in VANET.

Hirokazu Miura, Muneyuki Noguchi, Noriyuki Matsuda, Masato Soga, Hirokazu Taki.

[11:40h] A New Method for Non-Dominant Motion Skill Learning by Using Motion Navigator.

Masato Soga, Kazuki Ishii, Tomoyasu Nishino, Hirokazu Taki.

IS16: Knowledge Engineering Solutions for Biomedical Applications

Chair: Prof. Gloria Bueno, Universidad de Castilla-La Mancha, Spain.

Co-chaired by Dr. Grégory Maclair, Vicomtech-IK4 Research Centre, Spain.

Co-chaired by Carlos Parra, Hospital Universitario Virgen del Rocío, Spain.

[10:20h] An Ontology-based Expert System for Decision Support in Cardiac Intensive Care Environments.

Marcos Martínez-Romero, José M. Vázquez-Naya, Javier Pereira¹, Alejandro Pazos, Miguel Pereira and Gerardo Baños.

[10:40h] Adaptive parameter computation for the automatic measure of the Tear Break-Up Time.

L. Ramos, N. Barreira, A. Mosquera, M. Curras, H. Pena-Verdeal, M. J. Giraldez, and M. G. Penedo.

[11:00h] Evolved artificial neural networks for controlling Topological Active Nets deformation and for medical image segmentation.

Cristina V. Sierra, Jorge Novo, Jose Santos, and Manuel G. Penedo.

[11:20h] A Semantic Clinical Decision Support System: conceptual architecture and implementation guidelines.

Eider Sanchez, Carlos Toro, Arkaitz Artetxe, Manuel Graña, Eduardo Carrasco and Frank Guijarro.

[11:40h] A Comparative Study of Classifier Ensembles for Karyotyping.

Iñigo Barandiaran, Gregory Maclair, Izaro Goienetxea, Carlos Jauquicoa, and Manuel Graña.

IS17-I: Recent trends in Knowledge Engineering, Smart Systems and their applications

Chair: Dr. Cesar Sanín, University of Newcastle, Australia.

Co-chaired by Dr. Carlos Toro, Vicomtech-IK4 Research Centre, Spain.

Co-chaired by Prof. Edward Szczerbicki, University of Newcastle, Australia.

[10:20h] The Development of a Knowledge-based Electricity Power Station Condenser Management System.

Paul Prickett, Gwyn Davies and Roger Grosvenor.

[10:40h] Application of Wearable Smart System To Support Physical Activity.

Pawe Swiatek, Piotr Klukowski, Krzysztof Brzostowski, and Jaroslaw Drapala.

[11:00h] Ontologically Aided Rule Model for the Implementation of ITIL Processes.

Jaroslaw Pastuszak, Adam Czarnecki, Cezary Orłowski.

[11:20h] Knowledge Engineering Relating to Spatial Web Performance Forecasting with Sequential Gaussian Simulation Method.

Leszek Borzemski and Anna Kaminska-Chuchma.

[11:40h] The concept of knowledge bases supporting the IT Systems Integration Model

Cezary Orłowski, Tomasz Sitek, Krzysztof Bartosiewicz, Lukasz Szczygielski

IS24 Ontology-based Information Retrieval.

Chair: Dr. Antonio Moreno, University Rovira i Virgili (URV), Spain.

Co-chaired by Dr. Hajer Baazaoui, University of La Manouba, Tunisia.

Co-chaired by Dr. Aida Valls, University Rovira i Virgili (URV), Spain.

Co-chaired by Nesrine Ben Mustapha, University of La Manouba, Tunisia.

[10:20h] Unsupervised Semantic Feature Matching in Information Retrieval using User-Oriented Ontology

Lei Shi and Rossitza Setchi

[10:40h] Ontology-driven Keyword-based Search on Linked Data

Carlos Bobed, Guillermo Esteban, and Eduardo Mena

[11:00h] FirstOnt: Automatic Construction of Ontologies out of Multiple Ontological Resources

Carlos Bobed, Eduardo Mena, and Raquel Trillo

[11:20h] Conceptual Indexing Documents in IR based on Ontology Enrichment

Lamia Ben Ghezaiel, Chiraz Latiri, and Mohamed Ben Ahmed

[11:40h] Sem-PubMed: a Semantic Medical Digital Library that Integrates Ontology Learning and Query Reformulation

Safa EL KAFSI, Nesrine BEN MUSTAPHA, Hajer BAAZAOUI ZGHAL and Antonio MORENO

12:20h-13:20h Lunch

Venue: CV-lunch.

13:30h-14:30h Keynote 2: "Extreme Learning Machine: One Step towards Human Brain Alike Learning"

Prof. Guang-Bin Huang

Nanyang Technological University, Singapore

Venue: PM-A.

Venue	Details
PM-A	GT06-I: Knowledge Management, Ontologies and Data Mining. Chair: Prof. Ron Hartung, Franklyn University, United States.
PM-B	IS03-II: Knowledge-Based Systems for e-Business. Chair: Prof. Kazuhiko Tsuda, University of Tsukuba, Tokyo, Japan. Co-chaired by Dr. Nobuo Suzuki, KDDI Corporation, Japan. Co-chaired by Prof. Masakazu Takahashi, University of Gumma, Japan.
PM-C	IS17-II Recent trends in Knowledge Engineering, Smart Systems and their applications. Chair: Dr. Cesar Sanín, University of Newcastle, Australia. Co-chaired by Dr. Carlos Toro, Vicomtech-IK4 Research Centre, Spain. Co-chaired by Prof. Edward Szczerbicki, University of Newcastle, Australia.
CV-C1	IS27 Affective Engineering and Management Engineering Approaches to the Restructuring of Aging Society. Chair: Prof. Hisao Shiizuka, Kogakuin University, Japan. Co-chaired by Prof. Junzo Watada, Waseda University, Japan.
CV-A	IS28-I Data Mining and Service Science for Innovation. Chair: Prof. Katsutoshi Yada, Kansai University, Japan.
CV-B	IS31-I Knowledge engineering and computational intelligence in medical image and medical data processing. Chair: Prof. Manuel Graña, University of the Basque Country, Spain. Co-chaired by Alexandre Savio, University of the Basque Country, Spain. Co-chaired by Darya Chyzyk, University of the Basque Country, Spain.

GT06-I: Knowledge Management, Ontologies and Data Mining

Chair: Prof. Ron Hartung, Franklyn University, United States.

[14:35h] Incorporating Farthest Neighbours in Instance Space Classification.

Daniel Vaccaro-Senna and Mohamed Medhat Gaber.

[14:55h] Teleology in Knowledge Mapping.

Pavel Krbalek and Milos Vacek.

[15:15h] Reducing the size of ontological representation of services using ontology recomposition.

Tomasz Rybicki.

[15:35h] Ontologica: Exploiting Ontologies and Natural Language for Representing and Querying Railway Management Logics.

Daniela Briola, Riccardo Caccia, Michele Bozzano, and Angela Locoro.

IS03-II: Knowledge-Based Systems for e-Business

Chair: Prof. Kazuhiko Tsuda, University of Tsukuba, Tokyo, Japan.

Co-chaired by Dr. Nobuo Suzuki, KDDI Corporation, Japan.

Co-chaired by Prof. Masakazu Takahashi, University of Gumma, Japan.

[14:35h] Lecture Notes in Computer Science: An effective index to learn Software Engineering by using ITSS.

Rasha El-Agamy, Chikako Morimoto, Kazuhiko Tsuda.

[14:55h] Decision table expansion method for software testing.

Keiji Uetsuki, Tohru Matsuodani, Masakazu Takahashi and Kazuhiko Tsuda.

[15:15h] An Evaluation Method for Segmental Accommodation Reviews with Text Mining.

Koichi Tsujii, Takashi Ikoma, and Kazuhiko Tsuda.

[15:35h] A Robust-Adaptive Control Strategy of a Class of Bioprocesses Using Interval Observers.

Emil Petre, Dan Selişteanu, Dorin Şendrescu.

IS17-II: Recent trends in Knowledge Engineering, Smart Systems and their applications

Chair: Dr. Cesar Sanín, University of Newcastle, Australia.

Co-chaired by Dr. Carlos Toro, Vicomtech-IK4 Research Centre, Spain.

Co-chaired by Prof. Edward Szczerbicki, University of Newcastle, Australia.

[14:35h] Advancing Knowledge Quality and Quantity in Knowledge Markets.

Leonardo Mancilla-Amaya, Edward Szczerbicki, Cesar Sanín.

[14:55h] Conditions of the fuzzy internet mortgage market sub-models implementation.

Aleksander Orlowski, Edward Szczerbicki.

[15:15h] Speed-up of a Knowledge-Based Clinical Diagnosis System using Reflexive Ontologies.

Arkaitz Artetxe, Eider Sanchez, Carlos Toro, Cesar Sanin, Edward Szczerbicki, Manuel Graña, Jorge Posada.

[15:35h] Business process modelling and simulation using formal experience record

Bartosz Kucharski , Edward Szczerbicki

IS27: Affective Engineering and Management Engineering Approaches to the Restructuring of Aging Society

Chair: Prof. Hisao Shiizuka, Kogakuin University, Japan.

Co-chaired by Prof. Junzo Watada, Waseda University, Japan.

[14:35h] Addressing Social Isolation and Establishing a Scale-Free Network in a Super-Aging Society.

Hisao Shiizuka and Ayako Hashizume.

[14:55h] A Game-Theoretic Two-echelon Model Approach to Strategy Development of Competitive Ocean Logistics in Thailand.

Thisana Waripan and Junzo Watada.

IS28-I: Data Mining and Service Science for Innovation

Chair: Prof. Katsutoshi Yada, Kansai University, Japan.

Co-chaired by Prof. Takahira Yamaguchi, Keio University, Japan.

[14:35h] Mood Identification in Bulletin Board System with Word Characteristic Dictionary

Shuhei Hamaoka and Wataru Sunayama

[14:55h] A Framework of Time-Series Analysis Method for ICT Service Diffusion using Textual Data

Motoi Iwashita

[15:15h] Knowledge Discovery in Web Access Log of E-commerce Site with FACT-Graph and Sequential Probability Ratio Test

Ryosuke Saga, Mauricio Letelier, Naoki Kaisaku, Yukihiro Takayama, and Hiroshi Tsuji

IS31-I: Knowledge engineering and computational intelligence in medical image and medical data processing.

Chair: Prof. Manuel Graña, University of the Basque Country, Spain.

Co-chaired by Alexandre Savio, University of the Basque Country, Spain.

Co-chaired by Darya Chyzhyk, University of the Basque Country, Spain.

[14:35h] Supervised classification using deformation-based features for Alzheimer's disease detection on the OASIS cross-sectional database.

Alexandre Savio.

[14:55h] Impact of Analysis Circularity: a Case Study in Cocaine Addiction detection on MRI.

M. Termenon, E. Fernández, A. Barrós-Loscertales, J.C. Bustamante, C. Ávila.

[15:15h] Effective voxel selection method over FDG-PET database based on Association Rules.

R. Chaves, J. Ramirez, J.M. Gorriz, F. Segovia, and for the Alzheimer's Disease Neuroimaging Initiative.

[15:35h] SPECT Computer-Aided Diagnosis System based on the Empirical Mode Decomposition.

Gallix, J.M. Gorriz, J. Ramirez, I.A. Illan, and E.W. Lang.

15:55h-16:10h Coffee Break / Work in Progress “Groundbreaking Intelligent Systems Research” Workshop

Venue: PM-coffee.

16:15h-17:15h Keynote 3: “Set of Experience and Experiential Decisional DNA”

Prof. Edward Szczerbicki.

University of Newcastle, Australia.

Venue: PM-A.

17:20h-18:40h Session 3

Venue	Details
PM-B	GT02 Machine Learning and Classical AI. Chair: Prof. Floriana Esposito, University of Bari, Italy.
PM-A	GT06-II: Knowledge Management, Ontologies and Data Mining. Chair: Prof. Ron Hartung, Franklyn University, United States.
CV-A	GT09 Intelligent Tutoring Systems and E-Learning Environments. Chair: Prof. Toyohide Watanabe, Nagoya University, Japan.
PM-C	IS17-III Recent trends in Knowledge Engineering, Smart Systems and their applications. Chair: Dr. Cesar Sanín, University of Newcastle, Australia. Co-chaired by Dr. Carlos Toro, Vicomtech-IK4 Research Centre, Spain. Co-chaired by Prof. Edward Szczerbicki, University of Newcastle, Australia.

CV-C1	<p>IS20 Innovation and Automation using MAS.</p> <p>Chair: Dr. Jeffrey W. Tweedale, Defence Science and Technology Organisation and University of South Australia.</p> <p>Co-chaired by Prof. Lakhmi Jain, University of South Australia.</p>
CV-B	<p>IS31-II Knowledge engineering and computational intelligence in medical image and medical data processing.</p> <p>Chair: Prof. Manuel Graña, University of the Basque Country, Spain.</p> <p>Co-chaired by Alexandre Savio, University of the Basque Country, Spain.</p> <p>Co-chaired by Darya Chyzhyk, University of the Basque Country, Spain.</p>

GT02: Machine Learning and Classical AI

Chair: Prof. Floriana Esposito, University of Bari, Italy. Chair: Prof. Ron Hartung, Franklyn University, United States.

[17:20h] Positive Predictive Value based dynamic K-Nearest Neighbor.

Iñigo Mendialdua, Noelia Oses, Basilio Sierra and Elena Lazkano.

[17:40h] An Analysis of Clustering Approaches to Distributed Learning on Heterogeneously Distributed Datasets.

Diego Peteiro-Barral and Bertha Guijarro-Berdiñas.

[18:00h] Unsupervised Discretization Method based on Adjustable Intervals.

Mohamed Bennasar, Rossitza Setchi and Yulia Hicks.

[18:20h] Evaluation of Random Subspace and Random Forest Regression Models Based on Genetic Fuzzy Systems.

Tadeusz Lasota, Zbigniew Telec, Bogdan Trawinski, Grzegorz Trawinski.

GT06-II: Knowledge Management, Ontologies and Data Mining

Chair: Prof. Ron Hartung, Franklyn University, United States.

[17:20h] Towards an Ontology Model for African Traditional Medicine.

Richard Okelo Angole, Peter Jehopio, Gilbert Maiga and Godfrey Omoda-Onyait.

[17:40h] Transitions-Based System.

Thomas Raimbault, David Genest and Stephane Loiseau.

[18:00h] Ontology Based Patterns for Software Security Engineering.

Esmiralda Moradian, Anne Håkansson, Jan-Olof Andersson.

[18:20h] MetaConcept: A Meta-ontology for Building Data and Knowledge Repositories.

Germán Bravo.

GT09: Intelligent Tutoring Systems and E-Learning Environments

Chair: Prof. Toyohide Watanabe, Nagoya University, Japan.

[17:20h] An empirical investigation of the role of technology-based education in Iran.

Sepehr Ghazinoory, Masoud Afshari-Mofrad.

[17:40h] A Course-centered Ontology of Japanese Grammar for a Language Learning Support System.

Jingyun Wang, Takahiko Mendori.

[18:00h] A method for detecting tense errors in learner English.

Ryo Nagata and Vera Sheinmana.

IS17-III Recent trends in Knowledge Engineering, Smart Systems and their applications.

Chair: Dr. Cesar Sanín, University of Newcastle, Australia.

Co-chaired by Dr. Carlos Toro, Vicomtech IK4, Research Centre, Spain.

[17:20h] The Development of Decisional DNA DIGITAL TV

Haoxi Zhang, Cesar Sanin, Edward Szczerbicki

[17:40h] Resource Allocation Problems in Network Processors for the Future Internet

Andrzej Kozik, Radosław Rudek, Paweł Świątek, and Adam Grzech

[18:00h] A fuzzy negotiation model to assign variable's domain in Constraint Satisfaction Problems: An agent based collaborative engineering modeling case

Ricardo Mejía-Gutiérrez, Alejandro Cálad-Álvarez, Daniel Zuluaga-Holguín

[18:20h] Decisional DNA with Embedded RELIEF-F and Linear Regression for Knowledge and Experience Management

Peng Wang, Cesar Sanin and Edward Szczerbicki

IS20: Innovation and Automation using MAS

Chair: Dr. Jeffrey W. Tweedale, Defence Science and Technology Organisation and University of South Australia.

Co-chaired by Prof. Lakhmi Jain, University of South Australia.

[17:20h] Middleware Interoperability in Tactical Defence Environments Smartphone Integration in the Net Warrior Initiative.

Kate Foster.

[17:40h] Multi-Agent Based System for Analysing Stress using the StressCaffe.

Anusua Ghosh, Jeffery W. Tweedale, Andrew Nafalski, Maureen Dollard.

[18:00h] Using Mutli-Agent Systems to Improve the Level of Autonomy for Operators Controlling Unmanned Vehicles.

Dr Jeffrey W. Tweedale.

IS31-II: Knowledge engineering and computational intelligence in medical image and medical data processing.

Chair: Prof. Manuel Graña, University of the Basque Country, Spain.

Co-chaired by Alexandre Savio, University of the Basque Country, Spain.

Co-chaired by Darya Chyzhyk, University of the Basque Country, Spain.

[17:20h] Optimized segmentation of Brain MRI using GHSOM and evolutive computing.

Andres Ortiz, Juan M. Gorriz, Javier Ramirez, Diego Salas-Gonzalez.

[17:40h] Automatic differentiation between controls and Parkinson's disease DaTSCAN images using a Partial Least Squares scheme and the Fisher Discriminant Ratios.

F. Segovia, J. M. Gorriz, J. Ramirez, R. Chaves, I. Alvarez, and the Parkinson's Progression Markers

Initiative.

[18:00h] Bootstrapped Dendritic Classifiers for Alzheimer's Disease classification on MRI features.

Darya Chyzhyk.

18:40h End of day

Tuesday 11th September 2012 Programme

9:00h-10:00h *Keynote 4: "Machine Understanding of Human Behaviour"*

Prof. Maja Pantic

Imperial College London, UK

Venue: PM-A.

10:00h-10:20h *Coffee Break*

Venue: PM-coffee.

10:20h-12:20h *Session 4*

Venue	Details
PM-C	GT04-I Knowledge Based and Expert Systems. Chair: Prof. Anne Hakansson, Royal Institute of Technology, Sweden.
PM-A	GT06-III Knowledge Management, Ontologies and Data Mining. Chair: Prof. Ron Hartung, Franklyn University, United States.
CV-A	GT07-I Web Intelligence, Text and Multimedia Mining and Retrieval. Chair: Prof. Andreas Nuernberger, University of Magdeburg, Germany.
PM-B	GT10-I Other / Misc. Intelligent Systems Topics. Chair: Dr. Carlos Toro, Vicomtech-IK4, Spain.
CV-C1	IS08 Intelligent monitoring and high-level activity interpretation using multisensory systems. Chair: Prof. Antonio Fernández-Caballero, Universidad de Castilla-La Mancha, Spain. Co-chaired by Ass. Prof. Rafael Martínez-Tomás, Universidad Nacional de Educación a Distancia, Spain.

CV-C2	<p>IS09 Social Knowledge Support Infrastructure for Human Activity and Creativity.</p> <p>Chair: Asst. Prof Naoto Mukai, Sugiyama Jo-gakuen University, Japan.</p> <p>Co-chaired by Assoc. Prof. Taketoshi Ushiyama, Kyushu University, Japan.</p> <p>Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan.</p>
CV-B	<p>IS18 Ontologies for decision-making.</p> <p>Chair: Dr. Cecilia Zanni-Merk, BFO team, University of Strasbourg, France.</p> <p>Co-chaired by Dr. Gregory Zacharewicz, GRAI, University of Bordeaux 1, France.</p>

GT04-I: Knowledge Based and Expert Systems

Chair: Prof. Anne Hakansson, Royal Institute of Technology, Sweden.

[10:20h] Multi-Agent Logic with Distances, Uncertainty and Interaction Based on Linear Temporal Frames.

Vladimir Rybakov

[10:40h] A framework for handling fuzzy temporal events.

Ángel Fernández-Leal, Diego Álvarez-Estevez, José María Fernández-Pastoriza, Vicente Moret-Bonillo

[11:00h] On the Continuous Evaluation of the Macrostructure of Sleep

Diego Alvarez-Estevez, José M. Fernández-Pastoriza, Elena Hernández-Pereira, Vicente Moret-Bonillo

[11:20h] Entropic Dimensionality Reduction in Discriminating Between Alzheimer's Disease and Vascular

Dementia

Diman Todorov, Rossi Setchi , and Antony Bayer

[11:40h] Meaning Judgment Method for Alphabet Abbreviation Using the Association Mechanism

Seiji Tsuchiya , Misako Imono, Eriko Yoshimura and Hirokazu Watabe

[12:00h] Method of Constructing the Integral OLAP-model based on Formal Concept Analysis

Tatiana Penkova, Anna Korobko

GT06-III: Knowledge Management, Ontologies and Data Mining

Chair: Prof. Ron Hartung, Franklyn University, United States.

[10:20h] Using OWL ontology for reasoning about schema mappings in data exchange systems.

Tadeusz Pankowski.

[10:40h] Using Differential Evolution to Set Weights to Segments with Different Information Content in the Piecewise Aggregate Approximation

Muhammad Marwan Muhammad Fuad

[11:00h] Ontology Integration by Using Context and Ontology Violation Check

Dan Wu and Anne Haakansson

[11:20h] Towards a Supervised Rocchio-based Semantic Classification of Web Pages

Shereen Albitar, Bernard Espinasse, Sébastien Fournier

[11:40h] Mobile Sentiment Analysis

Lorraine Chambers, Erik Tromp, Mykola Pechenizkiy, Mohamed Medhat Gaber

[12:00h] OWL $\delta\epsilon$: Non Monotonic Ontological Web Language

Ratiba Guebaili Djider, Aicha Mokhtari and Narhimene Boustia

GT07-I: Web Intelligence, Text and Multimedia Mining and Retrieval.

Chair: Prof. Andreas Nuernberger, University of Magdeburg, Germany.

[10:20h] A Customized Dependency Tree Kernel for Effective Sentiment Classification

Zhou Sun, Chao Gu, Chunping Li

[10:40h] Judgment of Depressive Tendency from Emotional Fluctuation in Weblog

Kazuyuki Matsumoto, Nobuhiro Yoshioka, Kenji Kita, and Fuji Ren

[11:00h] User Personalization via W-kmeans

Christos Bouras and Vassilis Tsogkas

[11:20h] Comparing Clustering Algorithms for Psychomime Classification using Probabilistic Latent Semantic Analysis and Fuzzy c-Means

Yoshiaki KUROSAWA, Norinobu HATAMOTO, Shogo HAMADA, and Toshiyuki TAKEZAWA

[11:40h] Automatically generating multilingual, semantically enhanced, descriptions of digital audio and video objects on the Web

Bernardo Pereira Nunes, Alexander Mera, Marco A. Casanova, Ricardo Kawase

GT10-I Other / Misc. Intelligent Systems Topics.

Chair: Dr. Carlos Toro, Vicomtech-IK4, Spain.

[10:20h] Optimization of Approximate Decision Rules Relative to Number of Misclassifications

Talha Amin, Igor Chikalov, Mikhail Moshkov, and Beata Zielosko

[10:40h] Pros and Cons of Horizontal Axis Wind Turbines Linear Identification

Dan Stefanoiu, Florin Sebastian Tudu

[11:00h] Croatian Language N-Gram System

Šandor Dembitz, Bruno Blašković, Gordan Gledec

[11:20h] Multi-Agent Stock Trading Algorithm – A Neural Network Approach

Monica Tirea, Ioan Tandau and Viorel Negru

[11:40h] Computer- aided Diagnosis of Abdominal Aortic Aneurysm after Endovascular Repair Using Texture Analysis

G. García, J. Maiora A. Tapia, M. De Blas

[12:00h] A Human-Computer Interaction System Facilitating Communication with Hearing-Impaired People

Wojciech Koziol, Hubert Wojtowicz, Kazimierz Sikora, and Wieslaw Wajs

IS08: Intelligent monitoring and high-level activity interpretation using multisensory systems.

Chair: Prof. Antonio Fernández-Caballero, Universidad de Castilla-La Mancha, Spain.

Co-chaired by Ass. Prof. Rafael Martínez-Tomás, Universidad Nacional de Educación a Distancia, Spain.

[10:20h] Accumulative Computation and Fuzzy Sets for Robust Fall Detection in Color Video

Juan Serrano-Cuerda, Marina V. Sokolova, Antonio Fernandez-Caballero, Maria T. Lopez and Jose

Carlos Castillo

[10:40h] Intelligent Monitoring and Activity Interpretation Framework – INT3-Horus General Description

Jose Carlos Castillo, Antonio Fernandez-Caballero, Juan Serrano-Cuerda, and Marina V. Sokolova

[11:00h] Intelligent Monitoring and Activity Interpretation Framework – INT3-Horus Ontological Model

Marina V. Sokolova, Jose Carlos Castillo, Antonio Fernandez-Caballero and Juan Serrano-Cuerda

[11:20h] Identification of alarming behaviour introduced by monitoring based in the integration of ontologies

Héctor F Gómez A1, Rafael Martínez Tomás and Susana Arias Tapia

[11:40h] Group Behavior Recognition Issue, Feature Analysis on Defending Pick and Roll Basketball Move

Alberto Pozo, Miguel A. Patricio, Jesus Garcia, and Jose M. Molina and Ignacio Refoyo

IS09: Social Knowledge Support Infrastructure for Human Activity and Creativity

Chair: Asst. Prof Naoto Mukai, Sugiyama Jo-gakuen University, Japan.

Co-chaired by Assoc. Prof. Taketoshi Ushiyama, Kyushu University, Japan.

Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan.

[10:20h] Aggregation of News Articles, being Time-dependent on Particular Topic

Yoshimune Tabuchi, Yusuke Koyanagi, and Toyohide Watanabe

[10:40h] Augmenting Social Media Monitoring through Human Collaboration

Nikos Karacapilidis, Ralf Loeffler, Doris Maassen and Manolis Tzagarakis

[11:00h] An Overview of a News Map System for Local News in Newspapers

Hideaki Ito

[11:20h] Design and implementation of a topic providing system with inference of daily life behavior

Seiji Suzuki, Go Tanaka, Ken Ohta, Hiroshi Inamura, Tadanori Mizuno, and Hiroshi Mineno

[11:40h] Focusing Target Estimation for Supporting Awareness of Individual Learning Activity in Collaborative Learning

Junya Tanaka Yuki Hayashi and Tomoko Kojiri

[12:00h] An Interface for Browsing Electronic Novels Using Attractiveness Map

Souichi Murai and Taketoshi Ushiyama

IS18: Ontologies for decision-making.

Chair: Dr. Cecilia Zanni-Merk, BFO team, University of Strasbourg, France.

Co-chaired by Dr. Gregory Zacharewicz, GRAI, University of Bordeaux 1, France.

[10:20h] Ontology modeling for intelligence: the ONTO-CIF model

Valentina Dragos

[10:40h] Using an Ontology for Modeling Decision-Making Knowledge

Elena Kornyshova, Rébecca Deneckère

[11:00h] A Heuristic TRIZ Problem Solving Approach based on Semantic Relatedness and Ontology Reasoning

Wei Yan, Cecilia Zanni-Merk, François Rousselot, Denis Cavallucci, and Pierre Collet

[11:20h] A Description Logics Geographical Ontology for Effective Semantic Analysis of Satellite Images

Maximiliano Cravero, François de Bertrand de Beuvron, Cecilia Zanni-Merk, and Stella Marc-Zwecker

[11:40h] Multi-strategies Ontology Alignment Aggregated by AHP

Fuqi Song, Gregory Zacharewicz, and David Chen

12:20h-13:20h Lunch

Venue: CV-lunch.

13:30h-14:30h Keynote 5: “High Performance Computing Systems for Intelligent Information Extraction from Remotely Sensed Hyperspectral Images”

Prof. Antonio Plaza

University of Extremadura, Spain

Venue: PM-A.

14:35h-15:55h Session 5

Venue	Details
PM-A	GT06-IV Knowledge Management, Ontologies and Data Mining. Chair: Prof. Ron Hartung, Franklyn University, United States.
PM-B	GT10-II Other / Misc. Intelligent Systems Topics. Chair: Dr. Carlos Toro, Vicomtech-IK4, Spain.
CV-C2	IS10-I Learning Support for Intelligence: Functionality and Environment. Chair: Assoc. Prof. Tomoko Kojiri, Kansai University, Japan. Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan.
CV-B	IS12-I Advanced Knowledge-based Systems. Chair: Professor Alfredo Cuzzocrea, University of Calabria, Italy.
CV-C1	IS26-I Soft Computing Techniques and Their Intelligent Utilizations Toward Gaming, Stock Markets, Robotics, and etc. Chair: Prof. Norio Baba, Kansai University, Osaka Kyoiku University, Japan.
CV-A	IS28-II Data Mining and Service Science for Innovation. Chair: Prof. Katsutoshi Yada, Kansai University, Japan.

PM-C	<p>IS30-I Second workshop on Hyperspectral image processing, intelligent systems for remote sensing and High Performance Computing.</p> <p>Chair: Prof. Manuel Graña, University of the Basque Country.</p> <p>Co-chaired by Prof. Richard Duro, University de A Coruña, Spain.</p> <p>Co-chaired by Prof. Antonio Plaza, University de Extremadura, Spain.</p> <p>Co-chaired by Prof. Alicia d'Anjou, University of the Basque Country.</p> <p>Co-chaired by Prof. Dora Blanco Heras, University of Santiago de Compostela, Spain.</p>
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GT06-IV: Knowledge Management, Ontologies and Data Mining

Chair: Prof. Ron Hartung, Franklyn University, United States.

[14:35h] Deterministic Approach for Biclustering of Co-Regulated Genes from Gene Expression Data

S Roy, D K Bhattacharyya, and J K Kalita³

[14:55h] Metanode Composition Method for Multilingual Parallel-text Having Many-to-many Relationship

Taku Fukushima and Takashi Yoshino

[15:15h] Tensor-based Relational Learning for Ontology Matching

Andrzej Szwabę, Pawel Misiorek, and Przemyslaw Walkowiak

[15:35h] Privacy Aware Community based Recommender Service for Conferences Attendees

Ahmed M. Elmisery, Kevin Doolin and Dmitri Botvich

GT10-II: Other / Misc. Intelligent Systems Topics.

Chair: Dr. Carlos Toro, Vicomtech-IK4, Spain.

[14:35h] Overlapping Community Detection in VCoP using Topic Models

Ricardo Munoz and Sebastian A. Ríos

[14:55h] Evaluation of a Thermal-Comfort Control System Using Real Data

Pablo Bermejo, Luis Redondo, Luis dela Ossa, Daniel Rodriguez, M. Julia Florez, Carmen Urea, Jose A.

Gamez, Jesus Martinez-Gomez, M. Puerta

[15:15h] A model for content generation in On-line social network

Pablo E. Roman, Miguel E. Gutierrez, and Sebastian A. Rios

[15:35h] Wi-Fi Localization via Particle Filtering and Use for M-commerce

John Garofalakis, Dimitris Varvaras

IS10-I: Learning Support for Intelligence: Functionality and Environment.

Chair: Assoc. Prof. Tomoko Kojiri, Kansai University, Japan.

Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan.

[14:35h] Discussion Support to Train Meta-cognitive Skill by Improving Internal Self-Conversation for Knowledge Co-creation Workshop

Kazuhisa SETA, Liang CUI, Mitsuru IKEDA and Noriyuki MATSUDA

[14:55h] Supporting Self-Regulated Training on a Web-based Community-Environment for Runners

Kenji Matsuura, Kazuhide Kanenishi, Hiroki Moriguchi

[15:15h] Dynamic Utterance Role Restriction on CSCL

Kaori Go, Yasuhisa Tamura

[15:35h] Effect of Arrangement in Digitized Note on Short-Term Remembrance

Motoki Miura and Ryo Kudo

IS12-I: Advanced Knowledge-based Systems.

Chair: Professor Alfredo Cuzzocrea, University of Calabria, Italy.

[14:35h] MMDW: A Multi-dimensional and Multi-granular Schema for Data Warehousing

Nadeem Iftikhar

[14:55h] Effective Detection of XML Outliers

Alfredo Cuzzocrea, Giuseppe Manco, and Elio Masciar

[15:15h] Latent Informative Links Detection

Liang Hu, Jian Cao, Guandong Xu, Zhiping Gu

[15:35h] Axiomatizing Inconsistency Metrics for Integrity Maintenance

Hendrik Decker

IS26-I: Soft Computing Techniques and Their Intelligent Utilizations Toward Gaming, Stock Markets, Robotics, and etc.

Chair: Prof. Norio Baba, Kansai University, Osaka Kyoiku University, Japan.

[14:35h] Relationality Design and Relationality-oriented Systems Design

Katsunori Shimohara

[14:55h] The Experiment of Sweden Game and the Effect of Students Education

Masashi Kawaguchi, Kiyotaka Atsumi, Norio Baba,

[15:15h] Software Structure Standard Proposal. Design Technique for Enhancing Software Quality and Development Suitability

Takamichi Yuasa, Masaya Hatakeyama, Naoki Sugiyama, Toshiya Fujiwara, Phalla So, Kouji Yoshida, and Kunihiko Yamada

[15:35h] Utilization of Soft Computing Techniques for Making COMMONS GAME Much More Exciting

Norio Baba, Yuta Arase, Masaki Takeda, Hisashi Handa,

IS28-II: Data Mining and Service Science for Innovation

Chair: Prof. Katsutoshi Yada, Kansai University, Japan.

Co-chaired by Prof. Takahira Yamaguchi, Keio University, Japan.

[14:35h] Estimation of the demand function and calculation of optimal prices taking externalities into

consideration. An analysis of the book market in Japan

Keita Kinjo and Takeshi Ebina

[14:55h] An Examination of the Impact of Neurophysiologic and Environmental Variables on Shopping Behavior of Customers in a Grocery Store in Japan

Marina Kholod Katsutoshi Yada

[15:15h] The Influence of Sales Areas and Bargain Sales on Customer Behavior in the Grocery Store

Natsuki Sano and Katsutoshi Yada

IS30-I: Second workshop on Hyperspectral image processing, intelligent systems for remote sensing and High Performance Computing.

Chair: Prof. Manuel Graña, University of the Basque Country.

Co-chaired by Prof. Richard Duro, University de A Coruña, Spain.

Co-chaired by Prof. Antonio Plaza, University de Extremadura, Spain.

Co-chaired by Prof. Alicia d'Anjou, University of the Basque Country.

Co-chaired by Prof. Dora Blanco Heras, University of Santiago de Compostela, Spain.

[14:35h] Hyperspectral Image Segmentation by t-Watershed and Hyperspherical Coordinates

Ramón Moreno, and Alicia d'Anjou

[14:55h] On hyperspectral morphology by lattice auto-associative memories supervised orderings

Miguel A. Veganzones

[15:15h] Efficient segmentation of hyperspectral images on commodity GPUs

Pablo Quesada-Barriuso, Francisco Arguello, and Dora B. Heras

[15:35h] C-means Clustering of Lattice Auto-Associative Memories for Endmember Approximation

Gonzalo Urcid, and Gerhard X. Ritter

15:55h-16:10h Coffee-Break

Venue: PM-coffee.

16:15h-17:15h Keynote 6: "Unsupervised Models for Industrial Applications"

Prof. Emilio S. Corchado

University of Salamanca, Spain

Venue: PM-A.

Venue	Details
CV-A	GT07-II Web Intelligence, Text and Multimedia Mining and Retrieval. Prof. Andreas Nuernberger, University of Magdeburg, Germany.
CV-C2	IS10-II Learning Support for Intelligence: Functionality and Environment. Chair: Assoc. Prof. Tomoko Kojiri, Kansai University, Japan. Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan.
CV-B	IS12-II Advanced Knowledge-based Systems. Chair: Professor Alfredo Cuzzocrea, University of Calabria, Italy.
PM-B	IS25 Intelligent solutions in network economy and manufacturing. Chair: Dr. Arkadiusz Kawa, Poznan University of Economics. Co-chaired by Dr. Pawel Pawlewski, Poznan University of Technology.
CV-C1	IS26-II Soft Computing Techniques and Their Intelligent Utilizations Toward Gaming, Stock Markets, Robotics, and etc. Chair: Prof. Norio Baba, Kansai University, Osaka Kyoiku University, Japan.
PM-C	IS30-II Second workshop on Hyperspectral image processing, intelligent systems for remote sensing and High Performance Computing. Chair: Prof. Manuel Graña, University of the Basque Country. Co-chaired by Prof. Richard Duro, University de A Coruña, Spain. Co-chaired by Prof. Antonio Plaza, University de Extremadura, Spain. Co-chaired by Prof. Alicia d'Anjou, University of the Basque Country. Co-chaired by Prof. Dora Blanco Heras, University of Santiago de Compostela, Spain.

GT07-II Web Intelligence, Text and Multimedia Mining and Retrieval.

Prof. Andreas Nuernberger, University of Magdeburg, Germany.

[17:20h] WNtags: A Web-Based Tool For Image Labeling And Retrieval With Lexical Ontologies

Marko Horvat, Anton Grbin, Gordan Gledec

[17:40h] An Algorithm for Tolerance Value Generator in Tolerance Rough Sets Model

Gloria Virginia and Hung Son Nguyen

[18:00h] A cognitive model of the web user

Pablo E. Roman and Juan D. Velasquez

[18:20h] Multilayered Class Discrimination in Large-Scale Taxonomies

Juan Carlos Gomez and Marie-Francine Moens

IS10-II Learning Support for Intelligence: Functionality and Environment.

Chair: Assoc. Prof. Tomoko Kojiri, Kansai University, Japan.

Co-chaired by Prof. Toyohide Watanabe, Nagoya University, Japan.

[17:20h] Proposal of an Interactive Remote Lecturing System with Complementary Features of Nonverbal Information

Hisayoshi Kunimune and Masaaki Niimura

[17:40h] Consideration on the Relationship between Changes in Learners' Learning Preferences and the Differences in e-Learning Modes of a Course

Kazunori Nishino, Tetsuo Mayumi, Yurie Iribe, Shinji Mizuno, Nobuyuki Ogawa, Kuniaki Yajima,

Kumiko Aoki, Yoshimi Fukumura ,

[18:00h] Sub-exercise Generation Support Environment for Logical Understanding of Mathematics

Yusuke NOGAMI and Tomoko KOJIRI

IS12-II Advanced Knowledge-based Systems.

Chair: Professor Alfredo Cuzzocrea, University of Calabria, Italy.

[17:20h] Finding the Best Source of Information by means of a Socially-enabled Search Engine

Paolo Fosci, Giuseppe Psaila

[17:40h] Modeling and Managing Uncertainty in Concurrent Database Transactions

Alfredo Cuzzocrea, Hendrik Decker, and Francesc D. Muñoz-Escot

[18:00h] Vertical Frequent Pattern Mining from Uncertain Data

Bhavek P. Budhia, Alfredo Cuzzocrea, and Carson K. Leung

IS25 Intelligent solutions in network economy and manufacturing.

Chair: Dr. Arkadiusz Kawa, Poznan University of Economics.

Co-chaired by Dr. Pawel Pawlewski, Poznan University of Technology.

[17:20h] A declarative approach for AGVs modeling and cyclic scheduling

Bocewicz Grzegorz, Banaszak Zbigniew, Pawlewski Pawel

[17:40h] Advanced polymeric film production data analysis and process optimization by clustering and classification methods

Michael Kohlert and Andreas König Initiative.

IS26-II Soft Computing Techniques and Their Intelligent Utilizations Toward Gaming, Stock Markets, Robotics, and etc.

Chair: Prof. Norio Baba, Kansai University, Osaka Kyoiku University, Japan.

[17:20h] Mutual complement networks use a school building based on evaluation by simulation

Toshio Nakamura, Kyohei Toyoda, Shota Oda, Shunsuke Ozawa, Phalla So, Shunya Hujiiwara, Yuya Issiki, Tadanori Mizuno, and Kunihiro Yamada

[17:40h] Controlling multimicroprocessor memory competition and noise

Katsunao Toraguchi, Yuta Kenmochi, Kunihiro Yamada

[18:00h] Towards a real time simulation of Linked Multi-Component Robotic Systems

Jose Manuel Lopez-Guede, Borja Fernandez-Gauna, Ekaitz Zulueta

[18:20h] Extracting Quarterly Trends of Tokyo Stock Market by Means of RMT-PCA

Mieko Tanaka-Yamawaki, Takemasa Kido, and Atsushi Yamamoto

IS30-II Second workshop on Hyperspectral image processing, intelligent systems for remote sensing and High Performance Computing.

Chair: Prof. Manuel Graña, University of the Basque Country.

Co-chaired by Prof. Richard Duro, University de A Coruña, Spain.

Co-chaired by Prof. Antonio Plaza, University de Extremadura, Spain.

Co-chaired by Prof. Alicia d'Anjou, University of the Basque Country.

Co-chaired by Prof. Dora Blanco Heras, University of Santiago de Compostela, Spain.

[17:20h] Towards Automatic Estimation of the Body Condition Score of Dairy Cattle Using Hand-held Images and Active Shape Models

Rafael Tedin, J. A. Becerra, and Richard J. Duro, Ismael Martinez Lede

[17:40h] Unsupervised Segmentation of Hyperspectral Images through Evolved Cellular Automata

Blanca Priego, Daniel Souto, Francisco Bellas, Richard J. Duro

[18:00h] Evaluation of interest point detectors for image information extraction

Iñigo Barandiaran, John Congote, Jon Goenetxea, and Oscar Ruiz

[18:20h] A Semilattice Approach towards Sparsely Connected Associative Memories

Peter Sussner and Marcos Eduardo Valle

18:40h End of day

Wednesday 12th September 2012 Programme

9:00h-10:00h Keynote 7: "Data + Evolving Representations = Intelligent Systems"

Prof. Ajith Abraham

Machine Intelligence Research Labs (MIR Labs), USA

Venue: PM-A.

10:00h-10:20h Coffee Break

Venue: PM-coffee.

10:20h-12:20h Session 7

Venue	Details
PM-A	GT01 Artificial Neural Networks, Connectionists Systems and Evolutionary Computation. Chair: Prof. Bruno Apolloni, University of Milan, Italy.
PM-C	GT04-II Knowledge Based and Expert Systems. Chair: Prof. Anne Hakansson, Royal Institute of Technology, Sweden.
PM-B	GT10-III Other / Misc. Intelligent Systems Topics. Chair: Dr. Carlos Toro, Vicomtech-IK4, Spain.
CV-C1	IS19 Chance Discovery. Chair: Prof. Akinoro Abe, IREIIMS University, Japan. Co-chaired by Prof. Yukio Ohsawa, Univ. of Tokyo, Japan.

CV-B	<p>IS22 Knowledge-Based Intelligent System and Application. Chair: Prof. Yuji Iwahori, Chubu University, Japan. Co-chaired by Prof. Yoshinori Adachi, Chubu University, Japan. Co-chaired by Prof. Nobuhiro Inuzuka, Nagoya Inst. of Technology, Japan.</p>
CV-A	<p>IS23-I Intelligent Network and Service. Chair: Prof. Jun Munemori, Wakayama University, Japan. Co-chaired by Prof. Takaya Yuizono, Japan Advanced Institute Science and Technology, Japan.</p>

GT01: Artificial Neural Networks, Connectionists Systems and Evolutionary Computation.

Chair: Prof. Bruno Apolloni, University of Milan, Italy.

[10:20h] An Estimation of Distribution Algorithm for Solving the Quay Crane Scheduling Problem with Availability Constraints

Christopher Exposito Izquierdo, Belen Melian Batista, and J. Marcos Moreno Vega

[10:40h] Performance comparison of non-RNN and RNN in Emergence of Discrete Decision Making through Reinforcement Learning.

Mohamad Faizal Samsudin and Katsunari Shibata

[11:00h] Genetic Algorithm Solving Orienteering Problem in Large Networks

Joanna Karbowska-Chilinska, Jolanta Koszelew, Krzysztof Ostrowski and Pawel Zabielski

[11:20h] Optimisation of Ensemble Classifiers using Genetic Algorithm

Mohamed Medhat Gaber and Mohamed Bader-El-Den

[11:40h] A Learning Based Evolutionary Algorithm For Distributed Multi-Depot VRP

A. Soeanu, S. Ray, M. Debbabi, J. Berger, and A. Boukhtouta

GT04-II: Knowledge Based and Expert Systems.

Chair: Prof. Anne Hakansson, Royal Institute of Technology, Sweden.

[10:20h] Semantically Enhanced Text Stemmer (SETS) for Document Clustering

Ivan Stankov, Diman Todorov, Rossitza Setchi

[10:40h] Prosaico: Characterisation of objectives within the scope of an intelligent system for sport advising

E. Mosqueira-Rey, D. Prado-Gesto, A. Fernandez-Leal, and V. Moret-Bonillo

[11:00h] Exploiting the Self-Organizing Financial Stability Map

Peter Sarlin

[11:40h] Knowledge-Driven Method for Object Qualification in 3D Point Cloud Data

Helmi Ben Hmida, Christophe Cruz, Christophe Nicolle and Frank Boochs

[11:40h] SAC³ – A Rule-Based System to Include Context in the Durability Analysis of Civil Structures. An Application in Reinforced Concrete Structures

Carlos Armando López Solano, Germán Enrique Bravo Córdoba

[12:00h] Predicting the Final Result of Sporting Events Based on Changes in Bookmaker Odds

Karol Odachowski, Jacek Grekow

GT10-III: Other / Misc. Intelligent Systems Topics.

Chair: Dr. Carlos Toro, Vicomtech-IK4, Spain.

[10:20h] Thermal Fluids Transfer Systems Supervision Using NN Based Models

Ramón Ferreiro García, José Luis Calvo-Rolle, Francisco Javier Pérez Castelo

[10:40h] A Complex System Approach for Smart Grid Analysis and Modeling

Guillaume Guerard, Soufian Ben Amor, and Alain Bui

[11:00h] Decomposing the Global Financial Crisis: A Self- Organizing Time Map

Peter Sarlin

[11:20h] Networks of Polarized Evolutionary Processors as Problem Solvers

Pedro Pablo Alarcon, Fernando Arroyo, Victor Mitrana

[11:40h] Trust in communication and multiagent systems

Manuel Graña, Adrian Agreda

IS19: Chance Discovery.

Chair: Prof. Akinoro Abe, IREIIMS University, Japan.

Co-chaired by Prof. Yukio Ohsawa, Univ. of Tokyo, Japan.

[10:20h] Logical Analysis for Chance Discovery in Multi-Agents' Environment

Vladimir V. Rybakov

[10:40h] Supporting Intra-Team Communication based on Psychological Tagging and Indirect Communication

Ruediger Oehlmann and Zoya Syed

[11:00h] A Cross-cultural Study on Trust and Risk Perception among Japan, China, and the United States: Focusing on Earthquakes and Nuclear Power Plant Accidents

Yumiko Nara

[11:20h] Sticky Tsugoes underlying Sticky Information

Yukio Ohsawa, Kenichi Horie, Masahiro Akimoto

[11:40h] Eye Movement and Time Perception in Combinatorial Thinking

Katsuo Miyamoto, Yukio Ohsawa

[12:00h] Chance discovery and black swan: from the viewpoint of abduction and affordance

Akinori Abe

IS22: Knowledge-Based Intelligent System and Application

Chair: Prof. Yuji Iwahori, Chubu University, Japan.

Co-chaired by Prof. Yoshinori Adachi, Chubu University, Japan.

Co-chaired by Prof. Nobuhiro Inuzuka, Nagoya Inst. of Technology, Japan.

[10:20h] Development of a System to Predict Understanding Level by Blink Frequency.

Yoshinori Adachi, Kei Konishi, Masahiro Ozaki, and Yuji Iwahori.

[10:40h] Analog Real Time Learning Neural Network using Multiple and Sample Hold Circuits.

Masashi Kawaguchi, Takashi Jimbo, and Naohiro Ishii.

[11:00h] A Method of Learning Data Selection for Updating Shadow Model with High Accuracy.

Shinji Fukui, Yasuchika Takeda, Gaku Watanabe, Yuji Iwahori, and Robert J. Woodham.

[11:20h] A Knowledge-Based System for the Detection of Troubled Projects.

Javier Andrade, Juan Ares, Rafael García, Santiago Rodríguez, and Sonia Suárez.

[11:40h] Obtaining Shape from SEM Image Using Intensity Modification via Neural Network.

Yuji Iwahori, Kazuhiro Shibata, Haruki Kawanaka, Kenji Funahashi, Robert J. Woodham, and Yoshinori Adachi.

[12:00h] **Ontology of Human Relationships An Approach to Computer-Aided Student Counseling.**

Tomoyuki Katayama, Naotaka Oda, Atsuko Mutoh, and Nobuhiro Inuzuka.

IS23-I: Intelligent Network and Service.

Chair: Prof. Jun Munemori, Wakayama University, Japan.

Co-chaired by Prof. Takaya Yuizono, Japan Advanced Institute Science and Technology, Japan.

[10:20h] **Acquisition of the Life Log Using Home Electric Appliances and its Application**

Yuya Uesugi, Jun Sawamoto, Norihisa Segawa, Eiji Sugino, Hiroshi Yajima

[10:40h] **A batch Update Method of Database for Mass Data during Online Entry**

Tsukasa Kudo, Yui Takeda, Masahiko Ishino, Kenji Saotome, and Nobuhiro Kataoka

[11:00h] **Analysis comparison between wave and wave at the learning status by simple electroencephalography**

Kouji Yoshida, Yuuta Sakamoto, Isao Miyaji, Kunihiro Yamada

[11:20h] **Application of a Web-Based Idea Generation Consistent Support System**

Jun Munemori, Hiroshi Fukuda, Junko Itou

[11:40h] **The Effectiveness of Three Communication Methods in a Realtime KJ Method Creativity Support Groupware**

Kobkrit Viriyayudhakorn and Susumu Kunifuji

12:20h-13:20h Lunch

Venue: CV-lunch.

13:30h-14:30h Keynote 8: "An Overview of Morphological Neural Networks"

Prof. Peter Sussner

University of Campinas, Brazil

Venue: PM-A.

Venue	Details
PM-A	GT03-I Agent and Multi-Agent Systems. Chair: Prof. Ngoc Thanh Nguyen, Wroclaw University of Technology, Poland.
PM-B	GT08 Intelligent Robotics and Control. Chair: Dr. Honghai Liu; University of Portsmouth, UK.
PM-C	IS11-I Population-based metaheuristics. Chair: Prof. Piotr Jêdrzejowicz, Gdynia Maritime University, Poland. Co-chaired by Dr. Ireneusz Czarnowski, Gdynia Maritime University, Poland.
CV-B	IS14-I Reasoning-based Intelligent Systems. Chair: Prof. Kazumi Nakamatsu, University of Hyogo, Japan. Co-chaired by Prof. Jair Minoro Abe, Paulista University, Brazil.
CV-C1	IS21-I Computational Intelligence in Multimedia Processing. Chair: Prof. Otoniel Mario López Granado, Universidad Miguel Hernández, Spain. Co-chaired by Prof. Adriana Dapena Janeiro, Universidade Da Coruña, Spain. Co-chaired by Prof. Nicolás Guil Mata, Universidad de Málaga, Spain.
CV-A	IS23-II Intelligent Network and Service. Chair: Prof. Jun Munemori, Wakayama University, Japan. Co-chaired by Prof. Takaya Yuizono, Japan Advanced Institute Science and Technology, Japan.

GT03-I: Agent and Multi-Agent Systems.

Chair: Prof. Ngoc Thanh Nguyen, Wroclaw University of Technology, Poland.

[14:35h] A logic for strategies in persuasion dialogue games

Magdalena Kacprzak, Katarzyna Budzynska, and Olena Yaskorska

[14:55h] Multi-Agent Logic based on Temporary Logic TS4Kn serving Web Search

Vladimir Rybakov

[15:15h] LMT: A Lightweight Logical Framework for Multi-agent Systems

John N. Crossley and Lito Perez Cruz

[15:35h] Adaptive organization for cooperative systems

Nadia Abchiche-Mimouni

GT08: Intelligent Robotics and Control.

Chair: Dr. Honghai Liu; University of Portsmouth, UK.

[14:35h] A Multi-sensor Switching Scheme with Tolerance to Delay and Packet Loss

Nikola Stankovic, Sorin Olaru and Silviu-Iulian Nicu

[14:55h] A model predictive control approach for the Pantograph-Catenary positioning system

Andrei Ioan Chiriac, Sorin Olaru, Pedro Rodriguez-Ayerbe

IS11-I: Population-based metaheuristics.

Chair: Prof. Piotr Jędrzejowicz, Gdynia Maritime University, Poland.

Co-chaired by Dr. Ireneusz Czarnowski, Gdynia Maritime University, Poland.

[14:35h] Guaranteeing the quality of service in cluster-based Web systems

Krzysztof Zatwarnicki, Leszek Borzemski

[14:55h] An Approach to Cluster Initialization for RBF Networks

Ireneusz Czarnowski and Piotr Jędrzejowicz

[15:15h] Impact of Migration Topologies on Performance of Teams of A-Teams

Piotr Jędrzejowicz and Izabela Wierzbowska

[15:35h] Combined classifier constructed from the reduced dataset obtained using fuzzy C-means and differential evolution algorithms

Joanna Jędrzejowicz and Piotr Jędrzejowicz

IS14-I: Reasoning-based Intelligent Systems.

Chair: Prof. Kazumi Nakamatsu, University of Hyogo, Japan.

Co-chaired by Prof. Jair Minoro Abe, Paulista University, Brazil.

[14:35h] Early Smoke Detection in Outdoor Space by Spatio-temporal Clustering using a Single Video Camera

Margarita Favorskaya, Konstantin Levitin

[14:55h] Intelligent Texture Reconstruction of Missing Data in Video Sequences Using Neural Networks

Margarita Favorskaya, Mikhail Damov, Alexander Zotin

[15:15h] One Approach for Grayscale Image Decorrelation with Adaptive Multi-level 2D KLT

Roumen Kountchev and Kazumi Nakamatsu

[15:35h] Risk based Government Audit Planning using Naïve Bayes Classifiers

Remis Balaniuk Pierre Bessiere, Emmanuel Mazer, Paulo Cobbe

IS21-I: Computational Intelligence in Multimedia Processing.

Chair: Prof. Otoniel Mario López Granado, Universidad Miguel Hernández, Spain.

Co-chaired by Prof. Adriana Dapena Janeiro, Universidade Da Coruña, Spain.

Co-chaired by Prof. Nicolás Guil Mata, Universidad de Málaga, Spain.

[14:35h] Efficient Wavelet Sign Prediction: Simulated Annealing vs Genetic Algorithms

J.M. Navarro, P. Moreno, F. Rodriguez-Ballester, A. Marti, M.A. Cruz-Chavez, M.P. Malumbres, and O. Lopez

[14:55h] Hybrid Precoding Scheme with Partial CSI at the Transmitter

Josmary Labrador, Paula M. Castro, Francisco J. Vazquez-Araujo, and Adriana Dapena

[15:15h] H.264/AVC-to-SVC Temporal Transcoding using Machine Learning

Rosario Garrido-Cantos, Jan De Cock, José Luis Martínez, Sebastiaan Van Leu-ven, Pedro Cuenca, and

Antonio Garrido

[15:35h] Pixel-based background initialization using spatio-temporal restrictions

Juan Villalba-Espinosa, Jose M. Gonzalez-Linares, Julian R. Cozar, and Nicolas Guil

IS23-II: Intelligent Network and Service.

Chair: Prof. Jun Munemori, Wakayama University, Japan.

Co-chaired by Prof. Takaya Yuizono, Japan Advanced Institute Science and Technology, Japan.

[14:35h] Support System for Creating Communication Opportunities Using SNS in Community of Japanese College Students

Junko Itou, Hiroto Kanai and Jun Munemori

[14:55h] Evaluation of Gesture-Command Input Method for Pen-based Group KJ System

Takahiro Nyu and Motoki Miura

[15:15h] An Efficient Algorithm to Predict Three-way Interaction of Proteins from Expression Data Based on Conditional Probability

Takatoshi Fujiki, Etsuko Inoue, Takuya Yoshihiro, and Masaru Nakagawa

[15:35h] The Effects of a Second Language on the Distributed and Cooperative KJ Method in Text-shared Collaboration

Takaya Yuizono and Zeying Yu

15:55h-16:10h Coffee-Break

Venue: PM-coffee.

16:15h-17:35h Session 9

Venue	Details
PM-A	GT03-II Agent and Multi-Agent Systems. Chair: Prof. Ngoc Thanh Nguyen, Wroclaw University of Technology, Poland.
PM-B	IS11-II Population-based Metaheuristics. Chair: Prof. Piotr Jędrzejowicz, Gdynia Maritime University, Poland. Co-chaired by Dr. Ireneusz Czarnowski, Gdynia Maritime University, Poland.

CV-B	IS14-II Reasoning-based Intelligent Systems. Chair: Prof. Kazumi Nakamatsu, University of Hyogo, Japan. Co-chaired by Prof. Jair Minoro Abe, Paulista University, Brazil.
CV-C1	IS21-II Computational Intelligence in Multimedia Processing. Chair: Prof. Otoniel Mario López Granado, Universidad Miguel Hernández, Spain. Co-chaired by Prof. Adriana Dapena Janeiro, Universidade Da Coruña, Spain. Co-chaired by Prof. Nicolás Guil Mata, Universidad de Málaga, Spain.

GT03-II Agent and Multi-Agent Systems.

Chair: Prof. Ngoc Thanh Nguyen, Wroclaw University of Technology, Poland.

[16:15h] An optimal tactic for intelligent agents to conduct search & detection operations based on multiple look angles

Bao U. Nguyen and François-Alex Bourque

[16:35h] A complex system approach for a reliable Smart Grid modeling

Coralie Petermann, Soufian Ben Amor, and Alain Bui

[16:55h] A Comparison Analysis of Consensus Determining Using One and Two-level Methods

Adrianna Kozierekiewicz-Hetmanska, Ngoc Thanh Nguyen

IS11-II Population-based Metaheuristics.

Chair: Prof. Piotr Jêdrzejowicz, Gdynia Maritime University, Poland.

Co-chaired by Dr. Ireneusz Czarnowski, Gdynia Maritime University, Poland.

[16:15h] Fuzzy Evidence Reasoning and Position Fixing

Wodzimierz Filipowicz

[16:35h] An Agent-Based Implementation of the Multiple Neighborhood Search for the Capacitated Vehicle Routing Problem

Dariusz Barbucha

[16:55h] Team of A-Teams for Solving the Resource-Constrained Project Scheduling Problem

Piotr Jędrzejowicz and Ewa Ratajczak-Ropel

IS14-II Reasoning-based Intelligent Systems.

Chair: Prof. Kazumi Nakamatsu, University of Hyogo, Japan.

Co-chaired by Prof. Jair Minoro Abe, Paulista University, Brazil.

[16:15h] A study on the variables related to software quality: a data mining based approach

Hércules Antonio do Prado, Fábio Bianchi Campos, Edilson Ferneda, Nildo Nunes Cornelio, Aluizio Haendchen Filho

[16:35h] A knowledge-based process for selecting management professionals

Edilson Ferneda, Hercules A. do Prado, Alexandre G. Cancian Sobrinho

[16:55h] Aspects of Curry Algebras, Computability, Constructibility, and Topological Spaces

Jair Minoro Abe, Kazumi Nakamatsu, Seiki Akama

[17:15h] An Overview of Paraconsistent Artificial Neural Networks and Applications

Jair Minoro Abe, Helder F. S. Lopes, Kazumi Nakamatsu

IS21-II Computational Intelligence in Multimedia Processing.

Chair: Prof. Otoniel Mario López Granado, Universidad Miguel Hernández, Spain.

Co-chaired by Prof. Adriana Dapena Janeiro, Universidade Da Coruña, Spain.

Co-chaired by Prof. Nicolás Guil Mata, Universidad de Málaga, Spain.

[16:35h] Reducing Vocabulary Size in Human Action Classification

J.R. Cozar, R. Hernandez, Y. Heredia, J.M. Gonzalez-Linares, and N. Guil

[16:55h] Person Identification Based on Lattice Computing k-Nearest-Neighbor Fingerprint Classification

Theodore Pachidis and Vassilis G. Kaburlasos

[17:15h] CommuNYFilm: A social network for collaborative video creation

Diego Prado-Gesto and Eva Gil Pons

17:40h Preview of KES 2013 - Closing of the conference.

Social Programme

Welcome cocktail

Sunday 9th September 2012

Miramar Palace, 19:00h

A welcome cocktail will be offered in the Miramar Palace's coffee room and its beautiful gardens with views to La Concha bay.



Gala dinner

Tuesday 11th September 2012

Bekoerota restaurant, 21:00h

The gala dinner will take place in the Bekoerota restaurant, a typical Basque restaurant in Hondarribia.

Shuttle service will be available from the conference place at no cost.



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KES 2012 General Information

Conference Venues⁵

The conference will take place in the **Miramar Palace**, a beautiful English "cottage" overlooking La Concha Bay and surrounded by magnificent gardens in front of the sea, and in the **Costa Vasca hotel**, close located to the Miramar Palace.



The Miramar Palace has four access. It can be accessed from the Costa Vasca hotel through a narrow passage, and from the beaches, Ondarreta (left) and La Concha (right). There is a fourth access to the main garden from the Antigua (Old) town. The conference building has two entries. The main one gives straightforward access to the conference place. The secondary entry leads to the Palacio Miramar offices and information desk. There will be good signage to easily guide the visitor to the conference place from this entry.

⁵ Satellite images obtained by Google Maps.



Conference Office and Registration

Days: Sun (17:00h – 19:00h) / Mon / Tue / Wed

Place: Miramar Palace - Hall

Time: 8:00h – 17:00h

Coffee Breaks

Days: Mon / Tue / Wed

Place: Miramar Palace – Coffee Room (PM-Coffee)

Time: 10:00h – 10:20h and 15:55h – 16:15h

Lunch

Days: Mon / Tue / Wed

Place: Costa Vasca Hotel – Lunch Room (CV-Lunch)

Time: 12:20h – 13:20h



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