



International

Innovation in Knowledge Based and Intelligent Engineering Systems



INVITED SESSION SUMMARY

Title of Session:

Digital Economy 2019

Name of Chair:

Dr. Yun-Heh (Jessica) Chen-Burger, The Heriot-Watt University, Edinburgh, UK
Prof. Arkadiusz Kawa, Poznan University of Economics and Business, Poland

Details of Session:

This is an Era for a Digital Economy. The Web is rapidly developing towards an environment that is physically distributed; control decentralised and run by self-motivated software systems. This provides an unique and exciting opportunity that could potentially revolutionise the conventional ways of doing business entirely.

In parallel, the Internet has attracted a critical mass of subscriptions, from both businesses and individuals, where the Internet is used for information exchange, facilitating collaboration and cooperation, carrying out e-Commerce and e-Business activities and other non-commercial based activities, e.g. emergency response and rescue. Virtual organisations and automated e-commerce operations are a reality today. However, true autonomous trading and collaborating systems that have full decision-making power rather than limited pre-determined operations are not available yet.

What are the relevant business and technological obstacles in achieving this? What are the make and break factors? What are the theories and practice that are promising that may be realised through technologies? What are the innovative models that are game changers? What types of intelligences are needed in autonomous systems? What types of system architecture are suitable for facilitating and encouraging autonomous intelligent systems? Can e-Commerce, mobile systems and supply chains be fully automated? Are trust and security issues an obstacle for automated systems? What are the existing and new technologies that one can draw on to overcome these obstacles? Can semantics-based technologies capture and enrich the relevant business knowledge thus enhance the decision making power and capabilities of such autonomous systems? Are (logical) reasoning mechanisms helpful? If so, what are their strengths and weakness? What types of communication languages and protocols, and system architectures are suitable, e.g. from a complete peer to peer architecture to a tightly controlled systems, for creating an ideal electronic environment for a virtual e-commerce market or cooperative environment? What are their strengths and weakness? In addition, the underlying computational platforms where business applications may be developed upon and run from, e.g. peer-to-peer, cloud and high-performance computing environments, do they play a role? If so, how? The increasingly popular non-conventional column-based databases and business intelligence techniques that are commonly used to process and analyse big data, do they play a role in the digital economy? If so, how they may influence and shape today's and tomorrow's businesses?

Topics

This special session welcome reports on computational, business, social and task-based issues related to the above topics. It will focus on recent research and application results.

A list of interested topics for this session, but not limited to, is provided below:

- Vision on novel advances of automated intelligent business agents
- Innovative business theories and practice
- Innovative business models

- Survey of business practice on innovative IT deployment
- Technologies and applications of Business Intelligence
- Modeling and simulation of business processes
- Novel business models and automations in the Digital Economy
- Social impact and interactions in Digital Economy
- Service Oriented Architecture for business processes
- e-Supply Chains
- e-Logistics
- e-Commerce
- Supply Chain Configuration
- Agile Supply Chains
- e-Procurement
- e-Sourcing
- Enterprise Architecture and implementation issues
- Interaction, collaboration and negotiation models
- Risk and knowledge management
- Semantic Web technologies
- Dynamic organisational issues and distributed agents
- Scalability issues in (fully) automated trading environments
- Real-world applications and business scenarios
- Computational platforms for supporting Digital Economy
- Other non-commercial agent based collaboration and cooperation theories, techniques and systems, e.g. emergency response, mobile systems, agent communication languages and protocols.

Website URL (if any):

Email & Contact Details:

Dr. Yun-Heh (Jessica) Chen-Burger, School of Mathematical & Computer Sciences Room G.38, Earl Mountbatten Building Heriot-Watt University Riccarton, Edinburgh, EH14 4AS United Kingdom, y.j.chenburger@hw.ac.uk

Prof. Arkadiusz Kawa, Poznan University of Economics and Business, Poland, al.Niepodległości 10, 61-875 Poznań, arkadiusz.kawa@ue.poznan.pl