***15th International Symposium on Knowledge and Systems Sciences***

***1st—2nd November 2014, Sapporo, Japan***

***Computational Semantics in Knowledge Engineering***

*Keynote*

Computational Semantics investigates the process of constructing and reasoning with semantics – the study of meaning. In her talk, Professor Setchi will focus on two main areas of research in computational semantics: semantic interpretation and semantic reasoning. She will discuss how Computational Semantics is used in Knowledge Engineering to create, discover, manage and reason with knowledge in various domains including design and innovation, intellectual property, and service robotics. She will also show through examples how semantics is used to improve creativity, situational awareness, intuitive interaction and quality of life. She will illustrate her talk with examples of practical applications from several multidisciplinary projects led by her, investigating real-world problems in the context of human-centred and context-aware computing.

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|  | Professor Rossi Setchi leads the Mechanics, Materials and Advanced Manufacturing Research Theme at Cardiff University. Her main research interests are in knowledge engineering, knowledge-based systems, intelligent manufacturing, robotics, systems engineering, and AI. Professor Setchi has collaborated with a large number of UK and overseas universities, research organisations and industrial companies from more than 20 countries in Europe, Asia and Australia. She has provided research leadership on over 20 collaborative projects funded by UK and overseas funding bodies, and generated, together with colleagues, research funding of over £15 million. |

Professor Setchi has contributed over 140 refereed research papers to international journals and conferences in 18 countries including Australia, Chile, China, Japan, Malaysia, Thailand, USA and 11 European countries. She has chaired two major conferences: the 14th International conference on Knowledge –based and Intelligent Information and Engineering Systems (KES2010) and the Inaugural International Conference on Sustainable Design and Manufacturing (SDM2014).

Professor Setchi has been a recipient of the 1999 Literati Club Award for Excellence, 2004 Donald Julius Groen Prize of the Institution of Mechanical Engineers, and awarded the KES Conference Best Paper Award in two consecutive years, 2012 and 2013.

Professor Setchi is a Chartered Engineer, Chartered IT Professional, and European Engineer. She is Fellow of the Institution of Mechanical Engineers, Fellow of the Institution of Engineering and Technology, Fellow of the British Computer Society, and Senior Member of IEEE. She acts as Associate Editor of the International Journal of Systems Science (IJSS), and the International Journal of Knowledge and Systems Science (IJKSS).