*Journal of Universal Computer Science, vol. 20, no. 3 (2014), 254-256*
*submitted: 15/2/14, accepted: 20/2/14, appeared: 1/3/14 © J.UCS*

# Conceptual Modelling with Specific Focus on Service-Oriented Systems

## J.UCS Special Issue

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The aim of this special issue of the Journal of Universal Computer Science is to disseminate the results of innovative research in Conceptual Modelling. Its main focus is on the application and role of conceptual modeling techniques in service-oriented systems.

In particular we invited the authors of the best papers presented at the Ninth Asia-Pacific Conference on Conceptual Modelling (APCCM) and the Third International Workshop on Conceptual Modelling of Services (CMS) to submit thoroughly revised versions of their contributions to this special issue. APCCM provides an annual forum for disseminating the results of innovative research in information modelling and related areas. In turns, the CMS workshop series provides a more specific forum for presenting and discussing trends and novel ideas in the intersection of the rather new, fast growing services computing and services science paradigms with the well established conceptual modelling area.

In addition, an open call for submissions was launched. A total of 14 submissions were received for this special issue. Each submission was reviewed by at least two international experts, and in several cases a second reviewing round for major revisions was needed. We are happy that finally eight quality articles came together for this special issue of the Journal of Universal Computer Science. Three of these articles are extended versions of papers accepted and presented at APCCM and other two of papers accepted and presented at CMS.

– *Towards an Extended Model of Conceptual Representations in Formal Ontologies: A Typicality-Based Proposal* by Marcello Frixione and Antonio Lieto.

– *Translation of Structural Constraints from Conceptual Model for XML to Schematron* by Jakub Klímek, Soběslav Benda and Martin Nečaský.

– *Service Composition Management: A Risk-Driven Approach* by Shang-Pin Ma, Ching-Lung Yeh and Ping-Chang Chen.

– *Evaluation of OCL Expressions over XML Data Model* by Jakub Malý and Martin Nečaský.

– *Generating an Excerpt of a Service Level Agreement from a Formal Definition of Non-Functional Aspects using OWL* by Mariam Rady.

– *Automatic Authentication to Cloud-Based Services* by Mircea Boris Vleju.

– *A Framework for Cost-Aware Process Management: Cost Reporting and Cost Prediction* by Moe Thandar Wynn, Wei Zhe Low, Arthur H. M. ter Hofstede and Wiebe Nauta.

– *Multilevel and Coordinated Self-Management in Autonomic Systems Based on Service Bus* by Mohamed Zouari, Codé Diop and Ernesto Exposito.

We are grateful to all authors of journal articles in this issue, who contributed to a fine collection of research in conceptual modelling. We would like to express our greatest thanks to all twenty-seven reviewers, who put in a lot of time reading the articles and making substantial suggestions for improvement, which at the end led to the high quality. We also would like to thank Professor Christian Gütl for the opportunity to publish this collection of research articles as a special issue of the Journal of Universal Computer Science and Ms. Dana Kaiser for her timeless efforts polishing the final versions of all contributions. Last but not least, we would like to acknowledge to our host institutions, the School of Information Management from The Victoria University of Wellington, New Zealand, the Advanced Computing Research Centre from the University of South Australia, Adelaide, and the Software Competence Centre Hagenberg, Austria, for their support and sponsoring of this special issue as well as the conferences from which it originated.

Flavio Ferrarotti, Georg Grossmann, Klaus-Dieter Schewe and Qing Wang
(March, 2014)

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