

# Conceptual Structures and Smart Applications (IJCSSA)

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## Conceptual Structures and Smart Applications



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**Editor(s)-in-Chief:** Simon Polovina (Sheffield Hallam University, UK) and Simon Andrews (Sheffield Hallam University, UK)

The **International Journal of Conceptual Structures and Smart Applications (IJCSSA)** provides a forum for the role of Conceptual Structures (CS) and Smart Applications (SA) in arts, business, science and social applications. The journal brings together research that spans these domains to explore ways that CS and SA can enrich these human endeavors. Arising originally out of the research of IBM in conceptual graphs, the scope includes a wider range of theories and practices, including formal concept analysis, description logics, the semantic web, the pragmatic web, ontologies, multi-agent systems, concept mapping, and more. Accordingly, CS represents a family of approaches that builds on the successes of artificial intelligence, business intelligence, computational linguistics, conceptual modeling, enterprise architecture and modelling, information and web technologies, knowledge discovery, knowledge management, and user modeling.

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### Topics Covered:

#### Conceptual Structures: Theory, Applications, and Practices

- Conceptual graphs
- Formal concept analysis
- ISO common logic

#### Knowledge Architectures

- Enterprise knowledge systems
- Mobile, ubiquitous, or embedded systems
- Metaphoric, cultural or semiotic considerations
- Multi-agent systems
- Post-syntactic, semantic, or pragmatic interoperability
- Requirements engineering
- Semantic Enterprise Architectures
- Transaction-oriented architectures

#### Smart Applications: Science, Technology and Systems

- e-Medicine and e-Science
- Forensic and Grid Computing
- Natural language systems
- Pragmatic and semantic web
- Topic maps
- Web 2.0

#### Smart Applications: Enterprise, Education, Society and Government

- Augmenting collective intelligence
- Business intelligence
- Discovering misuse and fraud

- e-Learning, smart VLEs
- e-Social science
- Folksonomies
- Government accountability and e-democracy
- Intellectual property management
- Legal analysis
- Healthcare management
- Knowledge discovery and management
- Managing ambiguity, nonsense or contradictions
- Teaching and learning of logic
- Supporting social action

#### Interaction Design, Visualization, Creative Industries

- Cultural, localization and internationalization
- Entertainment
- Linguistics
- Peirce's extential graphs logic
- Portal development
- Semiotics, signs and meaning making
- Supporting sensory disabilities, dyslexia or other differently abled
- Supporting alternative (e.g., lateral) thinking
- Thinking with diagrams
- User modeling
- User personalization
- Visual analytics

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All submissions and inquiries should be directed to the attention of:  
Simon Polovina and Simon Andrews, [ijcssa@shu.ac.uk](mailto:ijcssa@shu.ac.uk)

All manuscript submissions to IJCSSA should be sent through the online submission system:  
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## EDITOR-IN-CHIEF BIO

Dr. Simon Polovina engages in roles that draw upon his expertise in Enterprise Architecture and Conceptual Structures (CS), which harmonizes the human conceptual approach to problem solving with the formal structures that computer applications need to bring their productivity to bear. Simon is a Reader in Business Computing at Sheffield Hallam University, UK. He was a Principal Investigator for the recently completed European Commission 7th Framework Programme project CUBIST ("Combining and Unifying Business Intelligence with Semantic Technologies"), where he applied CS and co-managed the project. Simon is the Enterprise Architect for CENTRIC (Centre of excellence in Terrorism, Resilience, Intelligence and Organized Crime Research). He is Co-Chairman of the Global University Alliance that partners with the LEAD (Leading Enterprise Architecture Development) practitioner community. Simon is a Steering Group Member of the University's CCRC (Computing and Communications Research Centre) and co-leads the CCRC's Conceptual Structures Research Group. His PhD was awarded in 1994 by the Department of Computer Science, Loughborough University, UK. Simon has many years of industrial experience in accounting and information and communication technologies (ICT), and has published widely with over 90 learned publications to date. Simon was the General Chair for the 15th International Conference on Conceptual Structures (ICCS 2007): "Knowledge Architectures for Smart Applications" and Program Chair for the 19th International Conference on Conceptual Structures (ICCS 2011): "Conceptual Structures for Discovering Knowledge". Simon's interests include the use of Smart Applications and how they can detect novel or unusual transactions that would otherwise remain as lost business opportunities or represent illicit business or criminal activity. He has expertise in Enterprise Architecture, Service Oriented Architecture, Business Process Management, SAP technologies, Web technologies, Java, Object-oriented Analysis and Design, Conceptual Modelling of organizations as Multi-agent Systems, and in Interaction Design.

Dr. Simon Andrews is a Reader in Computer Science and is co-Leader of the Conceptual Structures Research Group at Sheffield Hallam University, UK. His PhD was awarded in 1996 by the Department of Computing, Sheffield Hallam University. Simon is the Technical Lead of CENTRIC (Centre of excellence in Terrorism, Resilience, Intelligence and Organized Crime Research), where his main roles are to provide technical visions for new project ideas and manage the technical work in on-going projects. Simon is an international expert on Formal Concept Analysis (FCA) and was Program Chair for the 19th International Conference on Conceptual Structures (ICCS 2011): "Conceptual Structures for Discovering Knowledge". He has presented his work on fast concept-mining algorithms world-wide, including at events in Moscow and Japan. As well as being a lead researcher for the prestigious European CUBIST project (Combining and Uniting Business Intelligence with Semantic Technologies), Simon has recently been involved in writing two successful bids for further major European projects that incorporate his FCA work, in the areas of crisis management through the use of social media (ATHENA) and environmental scanning for organized crime detection (ePOOLICE).



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