

8th International Conference on Conceptual Structures: Logical, Linguistic, and Computational Issues

The International Conference on Conceptual Structures (ICCS) is the principal research forum for the theory and practice of conceptual structures. ICCS 2000 was held in Darmstadt, Germany, and focussed on logical, linguistic, and computational aspects of conceptual structures.

The conference included 16 invited talks addressing eight topics: conceptual ontologies, logic and language, philosophical and linguistic issues, conceptual modeling, nested conceptual graphs, applications of conceptual graphs, computing conceptual structures, and logic-based networks. Invited talks on the same topic were presented in pairs and were followed by extensive discussion. These invited talks were complemented by 43 technical papers and ten position papers. In addition, one session of the conference was devoted to the presentation of IT companies and a dozen implementations of conceptual structure tools and prototypes were presented in software demonstrations.

The extensive program of the eighth International Conference on Conceptual Structures shows the intention of the community to extend its scope to topics that are related to conceptual structures. Having begun as a conference on conceptual graphs, ICCS has expanded to include topics such as formal concept analysis, description logics and ontologies. This trend will continue at the ninth International Conference, which will be held from July 30 to August 3, 2001, at Stanford University in Palo Alto, California, immediately precede the International Joint Conference on Artificial Intelligence (IJCAI '01) in Seattle, Washington. Information about ICCS 2001 "Conceptual Structures: Broadening the Base" can be found at <http://www.ksl.Stanford.EDU/iccs2001/>.

Following is a list of the invited talks, technical papers, position papers and IT demonstrations presented at ICCS 2000:

Conceptual ontologies:

J. F. SOWA: Ontology, metadata, and semiotics.

F. LEHMANN: Semiosis complicates high-level ontology.

Logic and language:

H. KAMP: Presuppositions in logic and language: hurdle or help.

R. VAN ROOY: Relevant questions and answers.

Philosophical and linguistic issues of conceptual structures:

K. DEVLIN: The role of conceptual structure in human evolution.

G. HARRAS: Concepts in linguistics --- concepts in natural language.

Conceptual modeling:

E. FRANCONI: Conceptual modeling with description logic.

- D. L. MCGUINNESS: Conceptual modeling for distributed ontology environments.
- Nested conceptual graphs:**
- M.-L. MUGNIER: Knowledge representation and reasonings based on graph homomorphisms.
 - S. PREDIGER: Nested concept graphs and triadic power context families. A situation-based contextual approach
- Applications of conceptual graphs:**
- M. CHEIN, D. GENEST: Where are we 7 years after the first ICCS?
 - G. MINEAU: The engineering of a CG-based system: fundamental issues.
- Computing conceptual structures:**
- B. GANTER: Computing with conceptual structures.
 - R. LEVINSON: Symmetry and the computation of conceptual structures.
- Logic-based networks:**
- ST. C. SHAPIRO: An introduction to SNePS3.
 - P. W. EKLUND: Logic-based networks: concept graphs and conceptual structures.
- Concepts and language:**
- F. H. GATZEMEIER: Patterns, schemata, and types --- author support through formalized experience.
 - J. ZELGER, J. GADNER: Knowledge organization by procedures of natural language processing. A case study using the method GABEK.
 - H. SCHÄRFE, P. ØHRSTRØM: Computer aided narrative analysis using conceptual graphs.
 - H. IRANDOUST, B. MOULIN: Pragmatic representation of argumentative text: a challenge for the conceptual graph approach.
 - G. ANGELOVA, A. NENKOVA, S. BOYCHEVA, T. NIKOLOV: Conceptual graphs as a knowledge representation core in a complex language learning environment.
- Modeling with conceptual graphs:**
- O. GERBÉ, G. W. MINEAU, R. K. KELLER: Conceptual graphs, metamodeling and notations of concepts.
 - PH. MARTIN: Conventions and notations for knowledge representation and retrieval.
 - O. CORBY, R. DIENG, C. HEBERT: A conceptual graph model for W3C resource description framework.
 - J. F. BALDWIN, T. P. MARTIN, A. TZANAVARI: User modeling using conceptual graphs for intelligent agents.
 - CH. LANDAUER, K. L. BELLMAN: Relationships and actions in conceptual categories.
- Formal semantics of conceptual graphs:**
- G. W. MINEAU: The extensional semantics of the conceptual graph formalism.
 - P. KOCURA: Semantics of attribute relations in conceptual graphs.

- B. GROH, R. WILLE: Lattices of triadic concept graphs.
J. E. HEATON, P. KOCURA: Open world theorem prover for conceptual graphs.
J.-F. BAGET: Extending the CG model by simulations.

Contextual logic:

- R. WILLE: Boolean concept logic.
F. DAU: Negations in simple concept graphs.
P. BURMEISTER, R. HOLZER: On the treatment of incomplete knowledge in formal concept analysis.
S. POLLANDT, R. WILLE: On the contextual logic of ordinal data.
P. EKLUND, B. GROH, G. STUMME, R. WILLE: A contextual-logic extension of TOSCANA.

Formal concept analysis:

- L. CHAUDRON, N. MAILLE: Generalized formal concept analysis.
S. FERRE, O. RIDOUX: A logical generalization of formal concept analysis.
C. LINDIG: Fast concept analysis.
J. SAQUER, J. S. DEOGUN: Concept approximations for formal concept analysis.

Applied formal concept analysis:

- B. GANTER, S. KUZNETSOV: Formalizing hypotheses with concepts.
U. PRISS: Faceted information representation.
R. J. COLE, G. STUMME: CEM --- a conceptual email manager.
J. HERETH, G. STUMME, R. WILLE, U. WILLE: Conceptual knowledge discovery and data analysis.
F. BAADER, R. MOLITOR: Building and structuring description logic knowledge bases using least common subsumers and concept analysis.

Conceptual ontologies:

- M. KEELER: Pragmatically Yours.
J. FARKAS, J. SARBO: A logical ontology.
J. VAN ZYL, D. CORBETT: A framework for comparing methods for using or reusing multiple ontologies in an application.
H. SURYANTO, P. COMPTON: Discovery of class relations in exception structured knowledge bases.

Computational aspects:

- D. CORBETT: A framework for conceptual graph unification.
H. D. PFEIFFER, R. T. HARTLEY: Visual CP representation of knowledge.
TH. CHARNOIS: Maximal isojoin for representing software textual specifications and detecting semantic anomalies.
A. DE MOOR: Composition norm dynamics calculation with conceptual graphs.
G. DE CHALENDAR, B. GREY, O. FERRET: A cost-bounded algorithm to control events generalization.

Conceptual graph tools:

- H. S. DELUGACH, B. E. LAMPKIN: Troika: using grids, lattices and graphs in knowledge acquisition.
- A. KABBAJ: From PROLOG++ to PROLOG+CG: a CG object-oriented logic programming language.
- S. POLOVINA, D. STRANG: NetCare: a practical conceptual graphs software tool.
- P. DOBREV, K. TOUTANOVA: CGWorld --- a web based workbench for conceptual graphs management and applications.
- P. BUCHE, O. HAEMMERLÉ: Towards a unified querying system of both structured and semi-structured imprecise data using fuzzy view.

Position papers

- R. MÜLLER: The edition project: Peirce's existential graphs.
- N. PASQUIER: Mining association rules using formal concept analysis.
- R. WILLE: Contextual logic summary.
- K. E. WOLFF: Information channels and conceptual scaling.
- S. RUDOLPH: Spatial concepts --- a rule exploration.
- R. GUGISCH: Lattice contexts, a generalization in formal concept analysis.
- A. MÄDCHE, ST. STAAB: The TEXT-TO-ONTO learning environment.
- TH. DECHILLY, B. BACHIMONT: Controlling the semantics of metadata on audio-visual documents using ontologies..
- CH. JACQUELINET, A. BURGUN: Building the ontological foundations of a terminology from natural language to conceptual graphs with Ribosome, a knowledge extraction system.
- H. S. DELUGACH: CharGer: some lessons learned and new directions.
- W. K. PUN: Knowledge management using conceptual graphs.

Presentations of IT companies

- J. HARBARTH (Software AG): From the W3C's XPath to Tamino's X-Query.
- W. WATERFELD (Software AG): Bolero --- development environment for web applications.
- N. TROGISCH (NaviCon GmbH): Exploring market structures via concept lattices.
- TH. KAMPS (Intelligent Views GmbH) Integrated knowledge management.
- U. JASNOCH, D. BALFANZ (Fraunhofer IgD): Navigation through meta-information --- application examples and perspectives.

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