

Renata Vieira, Giancarlo Guizzardi, Sandro Rama Fiorini (Eds.)



Joint IV Seminar on Ontology Research in Brazil

and VI International Workshop on Metamodels,
Ontologies and Semantic Technologies

Gramado, Brazil, September 12-14, 2011
Proceedings

<http://www.inf.ufrgs.br/ontobras-most2011/>

Sponsors



Organizing
Institutions



Supporters



Copyright © 2011 for the individual papers by the papers' authors. Copying permitted for private and academic purposes. Re-publication of material from this volume requires permission by the copyright owners. This volume is published and copyrighted by its editors

Editors' addresses:

Renata Vieira — renata.vieira@pucrs.br

Faculdade de Informática — Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS)

Av. Ipiranga, 6681

CEP 90619-900 — Porto Alegre, RS — Brazil

Giancarlo Guizzardi — gguizzardi@inf.ufes.br

Departamento de Informática — Universidade Federal do Espírito Santo (UFES)

Av. Fernando Ferrari, S/N, Campus Universitário de Goiabeiras, Prédio : CT-VII

CEP 29060-970 — Vitória, ES — Brazil

Sandro Rama Fiorini — srfiorini@inf.ufrgs.br

Instituto de Informática — Universidade Federal do Rio Grande do Sul (UFRGS)

Avenida Bento Gonçalves, 9500, Caixa Postal 15064

CEP 91501-970 — Porto Alegre, RS — Brazil

Preface

Ontology is a cross-disciplinary field concerning the study of concepts and theories that support the building of shared conceptualizations of specific domains. In recent years, there has been a growing interest in the application of ontologies to solve modelling and classification problems in diverse areas such as Computer Science, Information Science, Philosophy, Artificial Intelligence, Linguistic, Knowledge Management and many others.

The Seminar on Ontology Research in Brazil, ONTOBRAS, foresees an opportunity and scientific environment in which researchers and practitioners from Information Sciences and Computer Science can discuss the theories, methodologies, languages, tools and experiences related to ontologies development and application.

In particular, this Seminar fourth edition was held simultaneously with the sixth edition of the International Workshop on Metamodels, Ontologies, Semantic Technologies (MOST), as the result of an effort of the research community in integrating the events on Ontologies which happened in Brazil in recent years. The goal was to create a unique highly scientifically qualified international forum for presenting and discussing this important topic.

The event was organized by the *Federal University of Rio Grande do Sul (UFRGS)* through the *Institute of Informatics* and *Faculty of Library and Communication Sciences*. It was also supported by the *Pontifical Catholic University of Rio Grande do Sul (PUCRS)*, the *Federal University of Esp rito Santo (UFES)* and *The International Association for Ontology and its Applications (IAOA)*. The event was partially funded by **CAPES Foundation**, from the Brazilian Education Ministry, and by **ENDEEPER Knowledge Systems**.

Researchers and practitioners were invited to submit theoretical, technical and practical research contributions that directly or indirectly address the issues above. The call for papers was open for two categories of submissions: Full papers (maximum 12 pages) written in English and describing original work with clear demonstrated results. Accepted full paper were invited for oral presentation. The second category was short papers (maximum 6 pages), written in Portuguese, or English, or Spanish and describing ongoing work. Accepted short papers were be invited for poster presentations.

We received 29 full-paper submissions, out of which 7 are accepted for publication and oral presentation; and 36 short-paper submissions, out of which 16 are accepted for publication and poster presentations. Also, the reviewers considered that another 7 full papers, while too premature to be accepted as full papers, are relevant enough to be presented as posters. This volume is thus constituted by 7 full papers and 20 short papers, selected by our program committee, which is composed by national and international referees.

We thank the organizing committee for their commitment to the success of the event, the authors for their submissions and the program committee for their hard work.

September 2011

Renata Vieira
Giancarlo Guizzardi
Sandro Rama Fiorini

General Chairs

Mara Abel (INF - UFRGS)
Sônia Elisa Caregnato (FABICO - UFRGS)

Program Chairs

Renata Viera (INF - PUCRS)
Giancarlo Guizzardi (INF - UFES)

Editorial Chair

Sandro Rama Fiorini (INF - UFRGS)

Organizing Committee

Carlos Alberto Silveira Jr. (INF - UFRGS)
Glória Isabel Sattamini Ferreira (FABICO - UFRGS)
Joel Carbonera (INF - UFRGS)
Leoci Sciortino (CEI - UFRGS)
Lourdes Tassinari (INF - UFRGS)
Martha Eddy K. K. Bonotto (FABICO - UFRGS)
Rafael Port da Rocha (FABICO - UFRGS)
Regina Helena van der Lan (FABICO - UFRGS)

Program Committee

Mauricio Almeida (UFMG, Brazil)
Fernanda Araujo Baiao (UNIRIO, Brazil)
Marcello P. Bax (UFMG, Brazil)
Ig Ibert Bittencourt (UFAL, Brazil)
Stefano Borgo (Laboratory for Applied Ontology [LOA], Italy)
Regina Braga (UFJF, Brazil)
Marisa Brascher (UnB, Brazil)
Ligia Café (UFSC, Brazil)
Gilberto Camara (INPE, Brazil)
Maria Luiza De Almeida Campos (UFF, Brazil)
Sônia Caregnato (UFRGS, Brazil)
Rove Chishman (Unisinos, Brazil)
Oscar Corcho (UPM, Spain)
Evandro Costa (UFAL, Brazil)
Paulo Costa (George Mason University, USA)
Alicia Diaz (LIFIA, Argentina)
Jérôme Euzenat (INRIA, Grenoble Rhône-Alpes, France)
Ricardo Falbo (UFES, Brazil)
Roberta Ferrario (Laboratory for Applied Ontology [LOA], Italy)
Frederico Fonseca (Penn State, USA)
Fred Freitas (UFPE, Brazil)
Renata Galante (UFRGS, Brazil)
José Augusto Chaves Guimarães (UNESP, Brazil)

Claudio Gutierrez (University of Chile, Chile)
Gabriela Henning (INTEC/UNL, Argentina)
Wolfgang Hesse (Philipps - University Marburg, Germany)
Seiji Isotani (University of São Paulo, Brazil)
Nair Kobashi (USP, Brazil)
Werner Kuhn (University of Muenster, Germany)
Fernanda Lima (UnB, Brazil)
Gercina A B O Lima (UFMG, Brazil)
Vânia Lima (USP, Brazil)
Maria Machado (UFRJ, Brazil)
Andreia Malucelli (PUC-PR, Brazil)
Riichiro Mizoguchi (Osaka University, Japan)
Regina Motz (Universidad de la Republica, Uruguay)
Ana Maria Moura (LNCC, Brazil)
Fernando Naufel (UFF, Brazil)
Alcione Oliveira (UFV, Brazil)
José Palazzo M. De Oliveira (UFRGS, Brazil)
Jose M Parente De Oliveira (ITA, Brazil)
Fernando Parreiras (University of Koblenz-Landau, Germany)
Paulo Pinheiro Da Silva (University of Texas at El Paso, USA)
Fabio Porto (LNCC, Brazil)
Florian Probst (SAP, Germany)
Renato Rocha Souza (FGV-RJ, Brazil)
Ana Carolina Salgado (UFPE, Brazil)
Plácida da Costa Santos (UNESP, Brazil)
Stefan Schulz (University of Graz, Austria)
Daniel Schwabe (PUC-RJ, Brazil)
Renata Vieira (PUCRS, Brazil)
Gerd Wagner (Brandenburg University of Technology at Cottbus, Germany)
Renata Wassermann (USP, Brazil)

Contents

I Full Papers	11
A Domain Ontology to Support Evidence-Based Practice and Context Usage on Crime Prevention <i>Expedito C. Lopes, Gabriela P. R. Pinto, Vaninha Vieira and Teresinha F. Burnham</i>	13
Using Multiple Views for Visual Exploration of Ontologies <i>Isabel Cristina Siqueira Da Silva and Carla Maria Dal Sasso Freitas</i>	25
Ontology to Classify Learning Material in Software Engineering Knowledge Domain <i>Joselaine Valaski, Andreia Malucelli, Sheila Reinehr and Ricardo Santos</i>	37
Reasoning over Visual Knowledge <i>Joel Luis Carbonera, Mara Abel, Claiton M. S. Scherer and Ariane K. Bernardes</i>	49
Ranganathans Canons Applied to Ontology Engineering: a Sample Application Scenario in Biomedical Ontologies <i>Linair Maria Campos, Maria Luiza de Almeida Campos and Maria Luiza Machado Campos</i>	61
Realist Representation of the Medical Practice: an Ontological and Epistemological Analysis <i>Andre Q. Andrade and Mauricio B. Almeida</i>	73
Ontology Enrichment Based on the Mapping of Knowledge Resources for Data Privacy Management <i>Fernando M. B. M. Castilho, Roger L. Granada, Renata Vieira, Tomas Sander and Prasad Rao</i>	85
II Short Papers	97
Proposta de uma Arquitetura para o Gerenciamento de Regras de Negócio em LPS com Base na MDA <i>Jaguaraci Batista Silva</i>	99
Abordagens Estocásticas para Raciocinadores Aplicáveis em Web Semântica <i>Juliano T. Brignoli, Denilson Sell and Fernando O. Gauthier</i>	105

CONTENTS

Hierarquias de Conceitos para um Ambiente Virtual de Ensino Extraídas de um Corpus de Jornais Populares <i>Maria Jose Bocorny Finatto, Lucelene Lopes, Renata Vieira and Aline Evers</i>	111
Interoperabilidade e Portabilidade de Documentos Digitais Usando Ontologias <i>Erika Guetti Suca and Flávio Soares Corrêa da Silva</i>	117
Ontologias no Suporte a Evolução de Conteúdos em Portais Semânticos <i>Débora Alvernaz Corrêa, Maria Cláudia Cavalcanti and Ana Maria C. Moura</i>	123
A Relação de Meronímia no Domínio Jurídico: um Estudo Visando sua Inserção em uma Ontologia Jurídica <i>Thais Minghelli</i>	129
Ontologias sobre Segurança da Informação em Biomedicina: Tecnologia, Processos e Pessoas <i>Luciana Emirena dos Santos Carneiro and Maurício Barcellos Almeida</i>	135
Uma Ontologia para Gestão de Segurança da Informação <i>Paulo Fernando da Silva, Henrique Otte, José Leomar Todesco and Fernando A. O. Gauthier</i>	141
Um Estudo de Caso para Aquisição de Conhecimento no Domínio da Hematologia <i>Katia C. Coelho, Mauricio B. Almeida and Viviane Nogueira</i>	147
Desenvolvimento de Ontologias para o Portal Semântico do CPDOC <i>Renato Rocha Souza, Suemi Higuchi and Daniela Lucas Da Silva</i>	153
Ontology Merging: on the Confluence Between Theoretical and Pragmatic Approaches <i>Raphael Cobe, Renata Wassermann and Fabio Kon</i>	159
Uma Ontologia de Engine de Jogos Educativos para Crianças com Necessidades Visuais: Fase de Preparação <i>Romário P. Rodrigues, Gabriela R. P. R. Pinto, Cláudia P. P. Sena, Expedito C. Lopes and Teresinha F. Burnham</i>	165
Suporte de Ontologias Aplicadas à Mineração de Dados por Regras de Associação <i>Eduardo de Mattos Pinto Coelho, Marcello Peixoto Bax, Wagner Meira Jr.</i>	171
A Representational Framework for Visual Knowledge <i>Alexandre Lorenzatti, Carlos E. Santin, Oscar Paesi da Silva and Mara Abel</i>	177

CONTENTS

Extração e Validação de Ontologias a partir de Recursos Digitais <i>Kassius Prestes, Rodrigo Wilkens, Leonardo Zilio and Aline Villavicencio</i>	183
Sistema de Aquisição semi-automática de Ontologias <i>Gabriel Gonçalves, Rodrigo Wilkens and Aline Villavicencio</i>	189
An ALC Description Logic Connection Method <i>Fred Freitas</i>	195
Collaborative Construction of Visual Domain Ontologies Using Metadata Based on Foundational Ontologies <i>Gabriel M. Torres, Alexandre Lorenzatti, Vitor Rey, Rafael P. da Rocha and Mara Abel</i>	201
The Limits of Using FrameNet Frames to Build a Legal Ontology <i>Anderson Bertoldi and Rove Luiza de Oliveira Chishman</i>	207
Tesouro Conceitual e Ontologia de Fundamentação: Análise de Elementos Similares em Seus Modelos de Representação de Domínios <i>Jackson da Silva Medeiros and Maria Luiza de Almeida Campos</i>	213

