

### 26th International Workshop on Qualitative Reasoning

The world is full of systems that have continuous aspects, and about which we have incomplete, qualitative knowledge. Humans are amazingly effective at working with such knowledge, and many science, engineering, and educational applications could benefit greatly from similar capabilities. In seeking to understand, develop, and exploit the ability to reason qualitatively, the QR community pursues research at the intersection of Artificial Intelligence, Cognitive Science, Engineering, and Science. Some QR researchers study, from a cognitive modeling perspective, how humans represent and use incomplete knowledge. Others develop algorithms and systems for constructing, simulating, and applying qualitative and semi-quantitative models. Still others exploit these insights to develop powerful methods for system modeling, explanation, diagnosis, and design, and in applications in science, engineering, and education.

The 26th International Workshop on Qualitative Reasoning provides a forum for researchers from all of these perspectives. The workshop will be held at the Institute for Creative Technologies in Playa Vista, California, USA, from July 16th to 18th 2012.

QR12 is co-located with 2nd Deep Knowledge Representation Challenge (DKRC2012).

#### **TOPICS**

- Qualitative modeling in physical, biological and social sciences, and in engineering.
- Representations and techniques for qualitative reasoning.
- Methods of integrating qualitative reasoning with other forms of knowledge, including quantitative methods and other formalisms.
- The use of qualitative reasoning for diagnosis, design, and monitoring of physical systems.
- Applications of qualitative reasoning, including education, science, and engineering.
- Cognitive models of qualitative reasoning, including the use of existing QR formalisms for cognitive modeling and results from other areas of cognitive science for qualitative reasoning.
- Using qualitative reasoning in understanding language, sketches, images, and other kinds of signals and data sources.
- Formalization, axiomatization, and mathematical foundations of qualitative reasoning.

# Contents

## **Regular Papers**

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Wouter Beek and Bert	Providing Feedback for Common Problems in Learning by
	Conceptual Modeling using Expectation-Driven
Bredeweg	Consistency Maintenance
	· · · · · · · · · · · · · · · · · · ·
Bert Bredeweg and Floris	Simulation preferences – Means towards usable QR
Linnebank	engines
Scott Friedman, David	Repairing Qualitative Domain Knowledge with Cross-
Barbella and Kenneth Forbus	Domain Analogy
Tom Hinrichs and Kenneth	Toward Higher-Order Qualitative Representations
Forbus	
Tomoya Horiguchi, Tsukasa	A Model-Building Learning Environment with Error-based
Hirashima and Kenneth	Simulation
Forbus	
Matthew Klenk, Daniel	Placing Qualitative Reasoning in the Design Process
Bobrow, Johan de Kleer, John	
Hanley and Bill Janssen	
Matthew Klenk, Nick Hawes,	Using Anchor Points to Define and Transfer Spatial
Kate Lockwood, Graham	Regions Based on Context
Horn and John Kelleher	
Andrew Lovett, Subu	Evaluating Qualitative Models of Shape Representation
Kandaswamy, Matthew	
McLure and Kenneth Forbus	
Matthew McLure and	Encoding Strategies for Learning Geographical Concepts
Kenneth Forbus	via Analogy
Francisco Ruiz, Núria Agell,	A Qualitative Learning System to acquire Human Sensory
Cecilio Angulo and Mónica	Abilities in Adjustment Tasks
Sánchez	
Albert Samà, Francisco J Ruiz	Granular Singular Spectrum Analysis for Gait Recognition
and Núria Agell	
Jakob Suchan and Mehul	Toward High-Level Dynamic Camera Control - An
Bhatt	Integrated Qualitative-Probabilistic Approach
Jon Wetzel and Kenneth	Teleological Representations for Multimodal Design
Forbus	Explanations

# **Late Breaking Papers**

Daniel Bobrow, Matthew	Challenges for Qualitative Reasoning in Design
Klenk, Johan de Kleer, Bill	
Janssen, and John Hanley	
Paulo Salles, Bert Bredeweg,	Qualitative Model Patterns: a Toolkit for
Richard Noble, Andreas Zitek,	Learning by Modelling
Adriano Souza	

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