8th International Conference on Graph Transformation (ICGT 2015)

L'Aquila, Italy
21 – 23 July, 2015

Second Call for Papers

Dynamic structures are a major cause for complexity when it comes to model and reason about systems. They occur in software architectures, configurations of artefacts such as code or models, pointer structures, databases, networks, etc. As interrelated elements which may be added, removed, or change state, they form a fundamental modelling paradigm as well as a means to formalise and analyse systems. Applications include architectural reconfigurations, model transformations, refactorings, and evolution of a wide range of artefacts, where change can happen either at design or at run time. Dynamic structures occur also as part of semantic domains or computational model for formal modelling languages.

Based on the observation that all these can be represented as graphs and their changes modeled as graph transformations, theory and applications of graphs, graph grammars and graph transformation systems have been studied in our community for more than 40 years. The conference aims at fostering interaction within this community as well as attracting researchers from other areas to join us, either in contributing to the theory of graph transformation or by applying graph transformations to already known or novel areas, such as self-adaptive systems, overlay structures in cloud or P2P computing, advanced computational models for DNA computing, etc.

The 8th International Conference on Graph Transformation (ICGT 2015) will be held in L'Aquila, Italy, as a STAF event (http://www.disim.univaq.it/staf2015/). The conference takes place under the auspices of EATCS (http://www.eatcs.org/), EASST (http://www.easst.org/), and IFIP (http://www.ifip.org/) WG 1.3. Proceedings will be published by Springer in the Lecture Notes in Computer Science (http://www.springer.com/lncs) series.

Foundations Track

The Foundations track invites contributions dealing with all aspects of the foundations of graph transformations. Topics of interest include, but are not limited to:

- General models of graph transformation
- High-level and adhesive replacement systems
- Node-, edge-, and hyperedge replacement grammars
- Parallel, concurrent, and distributed graph transformation
- Term graph rewriting
- Computational models based on graph transformations
- Hierarchical graphs and decompositions of graphs
- Graph theoretical properties of graph languages
- Geometrical and topological aspects of graph transformation
- Automata on graphs and parsing of graph languages
- Analysis and verification of graph transformation systems
- Structuring and modularization concepts for transformation systems
- Graph transformation and Petri nets

The **Research papers** (limited to 16 pages) submitted for this track describe innovative contributions to current research on the foundations of graph transformations and are evaluated with respect to their originality, significance, and technical soundness.

Applications Track

The Applications track invites contributions dealing with applications of graph transformations in any domain. Topics of interest include, but are not limited to:

- Model-driven development and model transformations
- Graph transformation languages
- Syntax and semantics of programming languages or domain-specific languages
- Tool support for graph transformations
- Model checking, validation, verification, simulation and animation
- Efficient algorithms (pattern matching, graph traversal etc.)
- Software architecture, refactoring, and evolution
- Workflows, business processes, and service-oriented applications
- Self-adaptive systems and ubiquitous computing
- Natural computing
- Bioinformatics and system biology
- Applications in natural and engineering sciences

The Applications track invites submissions in the following categories:

- **Technical papers** (limited to 16 pages) describe innovative contributions to application-oriented research on graph transformations and are evaluated with respect to their originality, significance, and technical soundness. Papers on tools may be submitted in this category unless they are tool presentation papers (see below).
- **Case studies** (limited to 12 pages) describe applications of graph transformations in any application domain. Case studies should contain a critical assessment of graph transformation techniques compared to standard techniques used in the respective application domain, and summarize the lessons learned. Case studies may also include empirical data and their evaluation.
- **Tool presentation papers** (limited to 8 pages) demonstrate new and exciting functionality of graph transformation tools. A tool presentation paper should focus on functionality and user interface without delving into technical details, and either describe or reference a demo session to be presented at the conference. A tool presentation paper may have an appendix with a detailed demo description (up to 5 pages), which will be reviewed but not included in the proceedings.

Paper Submission

Papers can be submitted at http://www.easychair.org/conferences/?conf=icgt2015. Submitted papers must use Springer's LNCS format (http://www.springer.com/lncs). Simultaneous submission to other conferences with proceedings or submission of material that has already been published elsewhere is not allowed. The page limits depend on the paper categories described in the Foundations and Applications tracks. The page limits are strict and include references and appendices.

Important Dates

Abstract submission:	20 March 2015
Full paper submission:	27 March 2015
Notification of acceptance:	24 April 2015
Final version due:	8 May 2015
Conference:	21 – 23 July 2015

Please notice also **co-located events** with separate calls: the STAF Doctoral Symposium and the 6th International Workshop on Graph Computation Models (see links on STAF and ICGT web pages).

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Web page http://btn1x4.inf.uni-bayreuth.de/icgt2015

Contact icgt2015@easychair.org