

# Fourth Workshop on the Analysis of Model Transformations (AMT'15)

URL: <http://msdl.cs.mcgill.ca/conferences/AMT>

Ottawa, Canada - September, 2015

Co-located with MODELS'15

**Motivation.** To facilitate the processing and manipulation of models, a lot of research has gone into developing languages, standards, and tools to support model transformations — a quick search on the internet yields more than 30 different transformation languages that have been proposed in the literature or implemented in open-source or commercial tools. The increasing adoption of these languages and the growing size and complexity of the model transformations developed require a better understanding of how all activities in the model transformation life cycle can be optimally supported. Moreover, as in practice, model transformations don't exist in isolation – the idea of composing model transformations into model transformation chains that fulfill a certain model management scenario has been gaining interest in recent years.

The properties of an artifact created by a model transformation are intimately linked to the model transformation that produced it. In other words, to be able to guarantee certain properties of the produced artifact, it may be very helpful, or even necessary, to also have knowledge of the producing transformation. As the use and significance of modeling increases, so too does the importance that model transformations produce models of adequate quality and with desirable properties. Similarly, as the number and complexity of model transformations grows, so too does the importance that transformations satisfy certain non-functional requirements and that life cycle activities for model transformations such as development, quality assurance, maintenance, and evolution are well supported.

**Objectives and Scope.** One objective of this workshop is foster innovative ideas on the representation of model transformation chains. This includes both languages and tools.

The central objective of the workshop is to provide a forum for the discussion and exchange of innovative ideas for the analysis of model transformations and transformation chains, broadly construed. Analyses might support a variety of model transformation activities including the development, quality assurance, maintenance and evolution by facilitating, for instance,

- the detection of typing errors, anti-patterns, dead code, transformation slices, likely invariants, or performance bottlenecks,
- the informal, semi-formal, or formal establishment of properties related to correctness or performance,
- test suite evaluation through code coverage determination,
- code completion and generation,
- the evolution of metamodels,
- impact analysis, and
- refactoring.

Another objective of the workshop is to help clarify which transformation analysis problems can be solved with the help of existing analysis techniques and tools developed in the context of general-purpose programming languages and source code transformation languages, and which analysis problems require new approaches specific to model transformations. Thus, the exchange of ideas between the modeling community and the programming languages and source code transformation communities is another objective of the workshop.

**Topics.** Topics of interest include, but are not limited to:

- languages for representing model transformation chains
- formal specification and verification of model transformations or transformation chains
- testing and test case generation for model transformations or transformation chains
- static analysis for model transformations or transformation chains such as control and data flow analyses and slicing
- dynamic analysis for model transformations or transformation chains.
- abstract interpretation for model transformations or transformation chains (to, e.g., support optimization)
- metrics for model transformations or transformation chains (to support, e.g., anti-pattern detection, refactoring and evolution)
- impact analysis of model transformations or transformation chains (to support, e.g., maintenance)

- certification and incremental re-validation for model transformations or transformation chains (e.g., for use in safety-critical systems)
- tools for analyzing model transformations or transformation chains
- (higher-order) transformation of transformation models or transformation chain models to make them amenable for analysis
- case studies for analyzing model transformations or transformation chains

**Intended Audience.** The intended audience consists of researchers and practitioners interested in advancing the theory and practice of model transformation through analysis. While the workshop is aimed primarily at members of the modeling community, participation from members of other relevant communities such as programming languages and source code transformation is encouraged.

**Proceedings and Submission Guidelines.** Authors are invited to submit short papers or long papers in CEUR single-column format (See **paper1.pdf** at <http://ceur-ws.org/Vol-XXX/samplestyles/>). **Long papers (max. 10 pages)** should describe novel and innovative contributions to the field of model transformation analysis. **Short papers (max. 6 pages)** can present

- *industrial feedback*: industrial participants may contribute research agendas, experience reports or case studies involving the analysis of model transformations in an industrial setting.
- *work envisioned or in-progress*: researchers new to the field may submit extended abstracts about work they are planning to do or are currently doing.
- *tools*: these submissions discuss tools (or their use) that are at least partially used for the analysis of model transformations.

Accepted papers will appear in workshop proceedings published in CEUR, which is indexed by DBLP. Submissions will be handled using EasyChair and reviewed by at least three PC members.

## Important Dates.

Paper submission deadline: July 17, 2015

Notification of acceptance: August 21, 2015

Workshop dates: September 27-29, 2015

## Program Committee.

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