Dagstuhl Seminar 13211 – Automatic Reasoning on Conceptual Schemas
Final Program

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-09:00</td>
<td>Opening Reasoning on the Structural Schema (I)</td>
<td>Reasoning about the Dynamics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:30-09:00</td>
<td>Reasoning about the Dynamics</td>
<td>Break Out Session</td>
<td>Break Out Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:30-09:00</td>
<td>Group Conclusions</td>
<td>Group Conclusions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Reasoning on the Structural Schema (II)</td>
<td>New Challenges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Reasoning on the Structural Schema (II)</td>
<td>Break Out Session</td>
<td>Break Out Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Group Conclusions</td>
<td>Group Conclusions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00-14:00</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00-15:30</td>
<td>Reasoning on the Structural Schema (III)</td>
<td>Reasoning about Mappings</td>
<td>Reports of the Break Out Sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00-15:30</td>
<td>Reasoning on the Structural Schema (III)</td>
<td>Excursion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Coffee Break</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Coffee Break</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00-17:30</td>
<td>Extensions</td>
<td>Reasoning about Dependencies</td>
<td>Discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00-17:30</td>
<td>Reasoning about Dependencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td>Dinner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Session 1: Reasoning on the Structural Schema (I)

- **UML class diagrams -- decision, identification and repair of correctness and quality problems**, Mira Balaban
- **OCL2FOL: Using SMT solvers to automatically reason on conceptual schemata with OCL constraints**, Carolina Dania
- **Reasoning Techniques for Conceptual Models**, Alessandro Artale
- **Toward an ontology-driven unifying metamodel for UML Class Diagrams**, Maria Keet

Session 2: Reasoning on the Structural Schema (II)

- **“Automating Reasoning on Conceptual Schemas” in FamilySearch—a Large-Scale Reasoning Application**, David W. Embley
- **Incremental inconsistencies detection with low memory overhead**, Xavier Blanc
- **Constraints on Class Diagrams**, Ingo Feinerer
- **At SAP, class models are rarely used as they are “too close to real code”**, Achim D. Brucker

Session 3: Reasoning on the Structural Schema (III)

- **Reasoning in ORM**, Enrico Franconi
- **Exploring UML and OCL Model Properties with Relational Logic**, Martin Gogolla
- **AuRUS: Automated Reasoning on UML Schemas**, Ernest Teniente
- **ProB: Solving Constraints on Large Data and Higher-Order Formal Models**, Michael Leuschel
Session 4: Extensions

- **Preliminary Report on an Algebra of Lightweight Ontologies**, Marco A. Casanova
- **Temporal Extended Conceptual Models**, Roman Kontchakov
- **Reasoning on conceptual schemas of spatial data**, Stephan Mäs
- **Validation of Complex Domain-Specific Modeling Languages**, Daniel Varró

Session 5: Reasoning about the Dynamics

- **View Design for Updates**, Stephen Hegner
- **Reasoning About the Effect of Structural Events in UML Conceptual Schemas**, Xavier Oriol
- **Automated reasoning for security and compliance properties of business processes**, Achim D. Brucker
- **Unified approaches for modeling and reasoning over processes and data**, Diego Calvanese

Session 6: New Challenges

- **The Curse of Restructuring in Dependency Theory**, Klaus-Dieter Schewe
- **A Declarative Approach to Distributed Computing**, Jorge Lobo
- **On BDD, Finite controllability and the BDD/FC conjecture**, Jerzy Marcinkowski
- **Metrics for Visual Notations**, Sophie Dupuy-Chessa

Session 7: Reasoning about Mappings

- **Reasoning About Dependencies in Schema Mappings**, Qing Wang
- **Semantic-Based Mappings**, Guillem Rull
- **Relationship between approaches to ontology-based data access and object relational techniques**, Marco Montali
- **Armstrong Instances as an Aid for Automated Reasoning**, Sven Hartmann

Session 8: Reasoning about Dependencies

- **Information and Dependency Preserving BCNF Decomposition Algorithm via Attribute Splitting**, Elena V. Ravve
- **Visual Reasoning of (Functional) Dependencies**, Bernhard Thalheim
- **Representation of Instance-Derivations based on Dependencies**, Joachim Biskup
- **Reasoning over Order Dependencies for Relational Schema**, Parke Godfrey

Break Out Sessions

The participants will be allocated to three different groups, each one of them addressing a different aspect related to the topic of the workshop:

- **On the Practical Applicability of Current Techniques for Reasoning on the Structural Schema**
- **Reasoning about the Dynamics of the Conceptual Schema**
- **New Challenges for Automated Reasoning on Conceptual Schemas**