The Practice of Enterprise Modelling

11th IFIP WG 8.1 Working Conference PoEM 2018
Vienna, Austria, October 31 - November 2, 2018

Proceedings of
Doctoral Consortium Papers

Edited by

Jolita Ralytė
University of Geneva, Switzerland

Yves Wautelet
KU Leuven, Belgium
PoEM 2018
Doctoral Consortium Papers
Proceedings

This volume of CEUR-WS Proceedings contains 6 Doctoral Consortium papers presented at the 11th IFIP WG 8.1 working conference on the Practice of Enterprise Modelling (PoEM 2018). The conference was held in Vienna, Austria, October 31 - November 2, 2018.

Copyright © 2018 for the individual papers by the papers’ authors. Copying permitted only for private and academic purposes. This volume is published and copyrighted by its editors.

CEUR-WS.org, ISSN 1613-0073
Preface

This volume of CEUR-WS proceedings includes papers of the Doctoral Consortium held in conjunction with the 11th IFIP WG 8.1 working conference on the Practice of Enterprise Modelling – PoEM 2018.

PoEM is an annual meeting place and a discussion forum for the enterprise modelling and information systems community. It gathers academic researchers and practitioners aiming to share their achievements, knowledge and experiences on various topics related to enterprise modelling: enterprise modelling theory, practice, tools and frameworks, enterprise architecture, human aspects and quality issues in enterprise modelling, etc. The 11th edition of PoEM was held in Vienna, Austria, from 31st of October to 2nd of November 2018.

The ambition of the Doctoral Consortium at PoEM 2018 was to increase the participation of PhD students working on foundations, methods, tools and applications of enterprise modelling, and to offer them the opportunity to present and discuss their research with other academics and to get a fruitful feedback and advice on their research studies. The Doctoral Consortium was also an occasion to interact with other PhD students and stimulate exchange of ideas and suggestions among participants, to discuss concerns about research topics, supervision, the job market, and other career-related issues.

The Doctoral Consortium received and accepted 6 submissions coming from Austria, Canada and South Africa. Each paper was evaluated by two senior researchers – members of the Program Committee, and received detailed and constructive comments for improving the paper before including it in the proceedings. Three reviewers also played the role of Mentor during the Doctoral Consortium and provided additional comments and recommendations to the students for their further advancement in their doctoral research project. The rest of the audience was also very supportive and active in providing ideas and comments to the students.

We would like to express our gratitude to the Program Committee members and Mentors of the Doctoral Consortium, for their efforts in providing very thorough evaluations of the submitted doctoral papers. We also wish to thank the PhD students who accepted to share with us their research ideas and progress. Finally, we owe special thanks to the Program Chairs and the Local Organisation Committee of PoEM 2018 for their support.

October 2018

Jolita Ralyté
Yves Wautelet
Conference Organization

Steering Committee

Anne Persson  
University of Skövde, Sweden
Janis Stirna  
Stockholm University, Sweden
Kurt Sandkuhl  
The University of Rostock, Germany

General Chair

Dimitris Karagiannis  
University of Vienna, Austria

Program Committee Chairs

Robert Buchmann  
University Babes-Bolyai, Romania
Marite Kirikova  
Riga Technical University, Latvia

Doctoral Consortium Chairs

Jolita Ralyté  
University of Geneva, Switzerland
Yves Wautelet  
KU Leuven, Belgium

Doctoral Consortium Program Committee

Janis Grabis  
Riga Technical University, Latvia
Anne Persson  
University of Skövde, Sweden
Kurt Sandhkuhl  
University of Rostock, Germany
Pnina Soffer  
University of Haifa, Israel
Janis Stirna  
Stockholm University, Sweden
Jean Vanderdonckt  
Université Catholique de Louvain, Belgium
Jelena Zdravkovic  
Stockholm University, Sweden

Organising Chair

Victoria Döller  
University of Vienna, Austria
Elena-Teodora Miron  
University of Vienna, Austria
# Table of Contents

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Coopetition – A Conceptual Modeling Framework for Analysis and Design</td>
<td>1</td>
</tr>
<tr>
<td>Vik Pant</td>
<td></td>
</tr>
<tr>
<td>Facilitating Design and Use of Effective Visual Languages in Enterprise Modelling and Information Systems</td>
<td>15</td>
</tr>
<tr>
<td>Graham McLeod</td>
<td></td>
</tr>
<tr>
<td>A Socio-Technical Modeling Framework for Designing Enterprise Capabilities</td>
<td>31</td>
</tr>
<tr>
<td>Mohammad Danesh</td>
<td></td>
</tr>
<tr>
<td>Design Metamodels for Domain-Specific Modelling Methods using Conceptual Structures</td>
<td>47</td>
</tr>
<tr>
<td>Wilfrid Utz</td>
<td></td>
</tr>
<tr>
<td>Formal Semantics for Conceptual Modeling Languages based on Model Theory</td>
<td>61</td>
</tr>
<tr>
<td>Victoria Döller</td>
<td></td>
</tr>
<tr>
<td>A Conceptual Modelling Framework for Evaluation of Cyber-Physical Systems based on Applied Category Theory and Metamodeling</td>
<td>74</td>
</tr>
<tr>
<td>Vimal Kunnummel</td>
<td></td>
</tr>
</tbody>
</table>