

## Preface

Traditional clustering algorithms identify just a single clustering of the data. However, today's complex and high dimensional data allow multiple interpretations for each data object, and thus, several valid groupings (multiple clustering solutions) can be detected. Recently, an emerging research direction, focusing on detecting, summarizing and using such multiple clustering solutions, has evolved out of this problem. This new clustering paradigm has attracted attention from many researchers and resulted in a number of important publications at leading data mining and machine learning conferences. Focusing on this novel paradigm, the MultiClust workshop attracts a variety of researchers working on different problem instances of multiple clustering solutions.

MultiClust 2011 establishes a venue for the growing community interested in multiple clustering solutions. As a platform for exchange of ideas, the workshop brings together researchers from well-established related areas, such as ensemble clustering, constraint-based clustering, frequent pattern mining, subspace mining and cluster exploration and visualization. The workshop covers aspects of these related fields and has its focus on the emerging cross-disciplinary topics. Overall, the workshop provides a venue for exploring state-of-the-art methods, presenting emerging work and discussing with active researchers in this field.

The technical program for this workshop includes seven peer-reviewed papers. They passed a competitive selection process ensuring high quality publications. Authors present a variety of aspects out of several research directions, and contribute to the emerging topic of multiple clustering solutions. We would like to highlight "Generating a Diverse Set of High-Quality Clusterings" by Jeff M. Phillips, Parasaran Raman and Suresh Venkatasubramanian. It has been selected as best contribution and receives the Best Paper Award from the MultiClust 2011 workshop.

Overall, the workshop demonstrates the strong interest from different research communities, and we are pleased to have some of the core researchers on the MultiClust 2011 program committee. We are particularly pleased to have two excellent speakers giving invited talks that provide an overview on challenges in related fields: Michael Houle (National Institute of Informatics, Japan) and Bart Goethals (University of Antwerp, Belgium) contribute with their cross-disciplinary research perspectives in feature selection and frequent itemset mining.

In the spirit of last year's workshop, the panel opens for a discussion of state-of-the-art, open challenges and visions for future research. It wraps up the workshop by summarizing several common challenges in different research directions, establishing novel research collaborations, and also providing a guideline for important topics to be addressed in following workshops.

We are grateful for the support of the ECML PKDD conference, assisting us in the workshop organization, and the MultiClust 2011 program committee for conducting thorough reviews of the submitted technical papers. We also wish to acknowledge the UMIC Research Centre at RWTH Aachen University in Germany for its support in making MultiClust 2011 possible.

Athens, September 2011

Emmanuel Müller  
Stephan Günnemann  
Ira Assent  
Thomas Seidl