Software product line engineering (SPLE) aims at developing a family of systems via systematic, large-scale reuse in order to reduce time to market and costs and to increase product quality. In order to achieve these goals, formal methods and analysis are promising approaches, which are best applied throughout the product line lifecycle in order to maximize their overall efficiency and effectiveness. While some analysis approaches (e.g., for feature modeling, variant management) and formal methods (e.g., BDDs, CSPs, SAT solvers, model checkers or formal semantics of variability models) have already been applied to SPL, a considerable potential still appears to be unexploited. Despite the initial works mentioned above, the respective communities (SPL, analysis and formal methods) have only been loosely connected. This workshop will bring together researchers interested in raising the efficiency and effectiveness of SPL by applying innovative analysis approaches and formal methods. The two long-term objectives are as follows:

1. To raise awareness and create a common understanding of challenges, constraints, and approaches in the different communities, and
2. To create a broader community interested in formal methods and analysis approaches in order to keep SPL tools and research up-to-date with the latest technologies.

The FMSPLE workshop will focus on the application of formal methods and analysis approaches in all phases of SPL to ensure the correctness of individual artifacts as well as consistency among them. The topics of interest include, but are not limited to:

- Analysis approaches and formal methods for:
  - domain analysis and scopeing
  - variability modeling
  - specification and verification of non-functional properties in SPL
  - product line architectures
  - component-based product line development
  - product line implementation, such as programming languages, formal language semantics, type systems
  - formal verification of product lines and product line artifacts, including theorem proving, model checking, and static analysis techniques
  - correctness-by-construction techniques in SPL
  - automated test case generation and formal testing in SPL
  - product derivation and application engineering
  - model-based development of product lines
  - analysis and assessment of diverse product line properties
  - product line management (e.g., consistency assurance) and evolution
- Proofs of concept, industrial experiences and empirical evaluations
- Tool presentations
- Vision and position papers on formal methods and analyses applied to SPL.

The FMSPLE workshop will feature a keynote by Prof. Alexander Felfernig (Graz University of Technology, Austria). Prof. Felfernig is a well-known expert on analysis, configuration, and recommender systems in the AI community.

The FMSPLE workshop will be a full-day event, starting with a keynote presentation by Prof. Alexander Felfernig. The keynote will be followed by presentations of selected peer-reviewed papers. To foster interaction within the workshop, a discussant will be assigned to each presented paper. The task of the discussant will be to summarize the paper and initiate the discussion of its results. The workshop will close with a panel discussion moderated by the organizers to summarize the state of the art and the state of the practice as presented in the workshop, to collect research challenges for the application of formal methods in SPL, and to identify research topics for future workshops.

We are looking for research papers, experience reports, reports of industrial case studies, tool descriptions, and short papers of 4-8 pages in length in ACM SIG alternative proceedings A4 style format. For formatting instructions, consult (http://www.acm.org/sigs/publications/proceedings-templates).

Submissions will be selected based on the relevance to the workshop topics and the suitability to trigger discussions. Accepted papers will be made available in the workshop as technical reports. A post-proceedings publication of the workshop is under consideration.

Papers should be submitted via EasyChair at http://www.easychair.org/conferences/?conf=fmsple11.

Deadline for submissions: 14 May 2011
Notification of acceptance: 10 June 2011
Final papers due: 27 June 2011