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**Seminar
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**User-Friendly Model
Checking of Health Care
Workflows**

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Workflows in health care are used to make processes more efficient, less error-prone, and flexible. However, most tools and frameworks used for workflow specification are either not user-friendly enough for the domain experts or not formal enough to allow automatic verification. In this talk we propose an MDE-based approach to the definition and management of health care workflows. Workflows are defined as models and will be subject for validation and verification against domain requirements, such as guidelines from central, regional and local health authorities. Most importantly, workflow models will be accessible and understandable for the users, which are mainly clinicians. We propose a user friendly, diagrammatic approach to the specification and verification of workflow models. That is, we utilize diagrammatic specification of workflows and workflow properties, we transform the models to the DiVinE model checker's language DVE, and the properties to LTL, then we check the models against the properties, and finally, if the workflow model is not valid wrt. a property, we present a counter-example in a user-friendly manner. This talk is based on a paper with the same name, co-authored with Adrian Rutle (Ålesund University College, Norway), Fazle Rabbi and Wendy MacCaull (St. Francis Xavier University).

Yngve Lamo received his master in mathematics from the Norwegian University of Technology in 1996 and he became Dr. Scient. in Informatics from the University of Bergen in 2003. Dr. Lamo has background from formal methods for program development. His doctor thesis was about algebraic representation of non-determinism. Currently he is an active researcher in Model Driven Engineering, he has published more than 50 scientific papers and he is participating as program committee member for several international conferences. He is especially interested in formalizing model driven engineering techniques with use of formal mathematics like category theory, graph transformations and logics. He has published papers on semantics of MDE concepts like (meta)-modeling and model transformations. He is also developing tool support for the formalisms and applying them in the engineering and the health care domain.

Friday, November 1st @ 2:30pm
Head Hall, HC9