



## ISM SEMINAR Summer Term 2015-16

**Speaker:** **Dr Aron Lindberg, Stevens Institute of Technology**

**Title:** How Online Communities Coordinate Complex Interdependencies through Routine Structuring: A study of an Open Source Software Project

**Date:** Wednesday 04 May 2016

**Venue:** M2, WBS Teaching Centre

**Time:** 14:00

**Abstract:** Online communities coordinate their work through mechanisms different from those traditionally associated with coordination in organizations. Open source software communities coordinate software development activity through arm's length coordination mechanisms, including an online platform, modular software code, and layering, or 'superpositioning,' of work on top of previously layered code. However, there are "residual interdependencies" that are not addressed by these well-known arm's length mechanisms. These residual interdependencies can reflect dependencies within the development work itself or among the developers performing the work. But open source communities cannot resort to organizational coordination mechanisms to coordinate work in the face of residual interdependencies. So how do these communities manage to coordinate these complex interdependencies? In this paper we conduct an exploratory, qualitative and computational study of an open source software project, Rubinius, to understand how open source communities deal with residual interdependencies that are not addressed by arm's length coordination mechanisms. We find that residual interdependencies are associated with different structures for patterns of action, or "routines," in the development process. In particular we find that different interdependencies are associated with different routine structures, and we identify two general routine components—direct implementation and knowledge integration—and unpack their roles. We conclude with implications for research into open source software communities and for research on coordination in organization studies generally.

**Biography:** Aron Lindberg is an Assistant Professor of Information Systems at the School of Business, Stevens Institute of Technology. Aron's research is focused on digital innovation, especially as it relates to work processes in distributed and digitalized contexts. He utilizes an inductive research approach representing a novel combination of grounded qualitative work and computational machine learning techniques. His research has been presented at ICIS, AOM, HICSS, & AMCIS, and he has papers under review at ISR, JAIS, & JSIS.

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