Invited Talk

Research in Software Evolution
'in vitro' vs. 'in vivo'

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Abstract: In biology and medicine "in vitro" and "in vivo" are considered two complimentary sides of the same coin, living in symbiotic relationship with one another for the greater good of the research discipline. In vitro research is necessary, because laboratory conditions allow the investigator to have full control over the experimental context, necessary to study the causal relationship between the treatment and the outcome. In vivo research, on the other hand, allows the investigator to study a phenomenon in its real-life context, hence, to confirm whether the treatment is applicable in reality. In this keynote, we will argue that software evolution research could benefit from a similar symbiotic relationship between in vitro and in vivo research. We will draw upon our experiences with various industrial research projects, to show you techniques and tools we have applied on real industrial systems to detect and repair problems. At the same time, we will reflect on what you can do as a researcher to ease industrial adoption of research ideas and prototypes.

Bio: Serge Demeyer is a professor in the Department of Mathematics and Computer Science at the University of Antwerp in Belgium. There he leads a research group investigating the theme of "Software Reengineering" (LORE - Lab On REengineering). His main research interest concerns software engineering (more precisely, reengineering in an object-oriented context) but due to historical reasons he maintains a heavy interest in hypermedia systems as well. He is an active member of the corresponding international research communities, serving in various conference organization and program committees. He has written a book entitled "Object-Oriented reengineering Patterns" (collecting best practices in reengineering) and edited a book "Software Evolution" (collecting contributions from leading researchers in the field).