

## SOS-EVOL 2016: UMONS Research Seminar on Open Source Software Evolution

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The Software Engineering Lab, lead by Prof. Tom Mens, has the pleasure to invite you to a half-day seminar on open source software evolution research, organised to celebrate the public PhD defence of Maelick Claes,

Attendance is free, but registration is required by filling in the following web form: <http://goo.gl/forms/aEo2nZ3duxhxeCEH2>

The seminar, supported by the INFORTECH Research Institute of UMONS, will be held on **4 July 2016, from 13h till 18h, In room 020 of building Vesale** at the Science Campus (Avenue du Champ de Mars) of the University of Mons.

The programme is as follows:

13h15: Mathieu Goeminne (CETIC, Belgium) "On the Use and Interaction of Database Technologies in Open Source Java Projects"

Abstract: Numerous current-day software systems rely on a relational database for creating, editing, managing and persisting data. To do so, they rely on embedded SQL queries or object-relational mappings (ORM) to associate source code entities to database concepts. We present results of a large-scale empirical analysis of how popular database technologies co-exist and change over time in open source Java projects.

14h: Gregorio Robles (Universidad Rey Juan Carlos, Madrid, Spain) "On the Use of UML in Free/Libre/Open Source Software"

Abstract: The Unified Modelling Language is taught in almost any university-level software engineering course around the world. It is reported that around 30-40% of the companies use the UML. In open source projects, however, it is seldom used. In this talk, I present our research on the quest for UML files in several million projects hosted in GitHub. I provide some insight on our mining, analysis and the results that we have obtained.

14h45: Roberto Di Cosmo (University of Paris Diderot, France) "Software Heritage, building the universal software archive"

Abstract: From ten years of working on analysing the characteristics of large open source software repositories, we draw some lessons on the key properties we need for this kind of large scale studies. This led us to launching Software Heritage, the most ambitious project to date to build a universal source code software knowledge base. I provide a brief overview of the project and its basic design principles, and unveil the collaboration infrastructure that is open for contribution.

15h30: Short break

16h: \*\*\* Maelick Claes (University of Mons, Belgium) - public PhD defense \*\*\*  
"Maintainability Issues in Open Source Component-based Software Ecosystems"

Abstract: Open source software ecosystems consist of a large number of interconnected software components. Component management software keeps track of the relations between these components, and helps both users and developers dealing with component dependencies and conflicts. Nevertheless, maintainability issues, such as backward-incompatible component updates, remain inevitable. In my thesis I aim to understand how dependency relations between software components maintained by different people impact software maintainability issues. By understanding how constraints between components can detect, prevent or reduce these issues, tools can be built to support maintainer and user communities of component-based ecosystems and distributions. All of this is investigated using the Debian and R ecosystem as a case study.

17h30: Reception

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For any questions or further information, feel free to contact Tom Mens ([tom.mens@umons.ac.be](mailto:tom.mens@umons.ac.be)) Service de Génie Logiciel, Université de Mons Avenue du Champ de Mars 6, 7000 Mons <http://staff.umons.ac.be/tom.mens/>