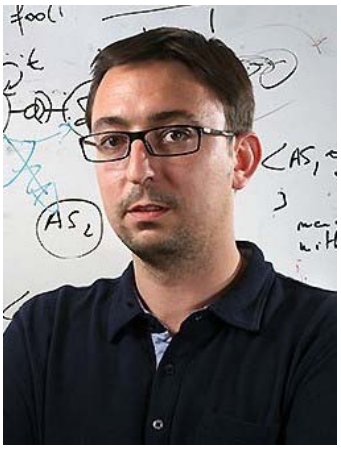
The Business Informatics Group together with the Faculty of Informatics at TU Wien, the Austrian Computer Society, and the Center for Computer Science invites to the talk

Modeling for Sustainability
Or How to Make Smart CPS Smarter?



Prof. Benoit Combemale
University of Toulouse

When? **May 15th, 2018**
5 p.m.

Where? TU Wien
Seminar room 183/2
Favoritenstraße 9-11, 1040 Wien
Staircase 1, 4th Floor, Room HA0403

Abstract
Various disciplines use models for different purposes. An engineering model, including a software engineering model, is often developed to guide the construction of a non-existent system. A scientific model is created to better understand an existing phenomenon (i.e., an already existing system or a physical phenomenon). An engineering model may incorporate scientific models to build a smart cyber-physical system (CPS) that require an understanding of the surrounding environment to decide of the relevant adaptation to apply. Sustainability systems, i.e., smart CPS managing resource production, transport and consumption for the sake of sustainability (e.g., smart grid, city, farming system…), are typical examples of smart CPS. Due to the inherent complex nature of sustainability that must delicately balance trade-offs between social, environmental, and economic concerns, modeling challenges abound for both the scientific and engineering disciplines.

In this talk, I will present a vision that promotes a unique approach combining engineering and scientific models to enable informed decision on the basis of open and scientific knowledge, a broader engagement of society for addressing sustainability concerns, and incorporate those decisions in the control loop of smart CPS. I will introduce a research roadmap to support this vision that emphasizes the socio-technical benefits of modeling.

Bio
Since September 2017, I am Full Professor of Software Engineering in the Department of Mathematics and Computer Science of the University of Toulouse - Jean Jaurès (UT2J), France. I am evolving within the research team SM@RT of the Research Institute in Computer Science of Toulouse (IRIT). I am interested in software engineering, including model driven software engineering (MDE), software language engineering (SLE) and software validation & verification (V&V); mostly in the context of (smart) cyber-physical systems and Internet of things. I am also teaching object-oriented programming, software and systems modeling, MDE, SLE and V&V in the department and worldwide in various engineering schools and universities.

For more information, please visit https://www.irit.fr/~Benoit.Combemale/.

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