



**Monday 11 September 2017**  
**14h30 – 15h30**  
**INP-ENSEEIH, Salle des thèses**

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## **Environmental Multiway Data Mining**

*Abstract:* Although array factorization methods have been vastly investigated as a source separation tool in disparate areas like chemometrics or remote sensing, studying multiple data set simultaneously, factorizing very large data set and identifying the extracted components solely from their spectra remain challenging tasks. In this talk, I will present some recent works on these topics. First, I will introduce multiway data fusion as a general framework that can tackle both variability in the data and multimodality. Several exemples of data fusion models applied to chemometrics and spectral unmixing of time-dependent hyperspectral images will be discussed. Second, I will show how a library of known spectra can be used inside a factorization algorithm to improve identification performances, based on a new formulation of the sparse coding problem. This will be illustrated on hyperspectral images of the surface of the earth.

*Bio:* I am a post-doctoral researcher at the University of Mons, Belgium, working for the FNRS. My main reasearch interest is data mining using matrix and tensor decompositions. I am interested in particular in Environnemental data mining using tools from linear and multilinear algebra, convex optimization and statistics. I was formerly a PhD student under the supervision of Pierre Comon at Gipsa-lab, Grenoble.

# Seminar

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