

Prof. Daniel KRESSNER

Mathematics Institute of Computational Science and Engineering - MATHICSE

SEMINAR OF NUMERICAL ANALYSIS

➤ **WEDNESDAY 1ST JUNE 2016 - ROOM ME B3 31 - 16h15**

Prof. Nicolas GILLIS (University of Mons, Belgium) will present a seminar entitled:

“Constrained low-rank matrix approximations and applications”

Abstract:

Low-rank matrix approximation is a key tool in applied mathematics and computer science. It is equivalent to linear dimensionality reduction and is closely related to principal component analysis (PCA). In this talk we first review several important low-rank matrix approximation models along with some applications, including the unmixing of hyperspectral images with nonnegative matrix factorization (NMF), the design of recommender systems with PCA with missing data, and the subtraction of the background in videos with robust PCA. Then, we review some complexity results about solving these problems and explain how this difficulty can be dealt with in practice. Finally, we will focus on NMF and some of its variants focusing on (provably correct) algorithms and applications.

Lausanne, 25 May 2016/DK/cr