

## Tensor decomposition and structured matrices

*lundi 14 mai 2018 15:00 (1 heure)*

Tensor decomposition problems appear in many areas such as Signal Processing, Quantum Information Theory, Algebraic Statistics, Biology, Complexity Analysis, ... as a way to recover hidden structures from data. The decomposition is a representation of the tensor as a weighted sum of a minimal number of terms, which are tensor products of vectors. We present an algebraic approach to address this problem, which involves duality, Gorenstein Artinian algebras and Hankel operators. We show the connection with low rank decomposition of Hankel matrices, discuss algebraic and optimization techniques to solve it and illustrate the methods on some examples.

**Orateur:** MOURRAIN, Bernard (Inria Sophia-Antipolis)