Prof. Philippe Michel
Chair of Analytic Number Theory (TAN)

EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

SEMINAR OF MATHEMATICS

MONDAY March 23, 2015 at 11h15, lecture hall BI AO 448 *(CIB)*

Prof. **Antti KNOWLES** *(ETHZ)* will present a seminar entitled:

"Anisotropic random matrices"

Abstract:

Most of the literature on random matrices focuses on matrix models that are isotropic in the sense that their Green functions are with high probability close to a multiple of the identity matrix. Such models include Wigner matrices, Erdos-Renyi graphs, and random band matrices.

I talk about matrix models that are not isotropic. An prominent family of examples is provided by sample covariance matrices whose underlying population has nontrivial correlations. I present a new method that yields local laws for such anisotropic models. Applications include the proof of the Tracy-Widom statistics near the edges, as well as the distribution of the eigenvectors.

Lausanne, March 20 2015 / mg

The seminars taking place at the Section of Mathematics are announced on internet address:
http://memento.epfl.ch/