Fluctuations of the spectrum of matrix-valued Gaussian processes

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Time **Friday, Sept 21, 2018 at 10 a.m.**
Place **Campus Belval, MNO 5A (fifth floor)**

Our talk will have as starting point the celebrated Wigner theorem, a result of great importance in the field of random matrices, that can be described as a law of large numbers for the dispersion of eigenvalues for certain families of random matrices. Since its publication, Wigner's theorem has been generalized in many directions; such as functional versions, generalizations to non-necessarily Gaussian entries with finite moments, to block matrices ensembles, to matrices with heavy-tailed entries and many others. In this talk, we will focus on one particular generalization: the problem of studying the fluctuations associated with Wigner's theorem. We will address this topic from a Malliavin calculus perspective in the particular case where the entries of the underlying matrices are replaced by independent Gaussian processes. This will allow us to prove a functional central limit theorem for the fluctuations associated to Wigner's theorem for a very large class of matrix-valued Gaussian processes.