

*Seminar:* "Geometry&Physics@DFT"

*Location:* DFT seminar room (IFIN-HH),  
(<http://events.theory.nipne.ro/gap/index.php/seminar>)  
(<http://www.nipne.ro/indico/categoryDisplay.py?categId=16>)

*Date:* Friday, 22 July 2014, 11 am

*Title:* **Large  $N$  expansions of random tensor models next-to-leading order and the general order**

*Speaker:* **Dr. Adrian Tanasa** (CNRS)

*Abstract:* "Random tensor models, seen as quantum field theoretical models, represent a natural generalization of the celebrated 2-dimensional matrix models. These matrix models are known to be connected to 2-dimensional quantum gravity, and one of the main results of their study is that their perturbative series can be reorganized in powers of  $1/N$  ( $N$  being the matrix size). The leading order in this expansion is given by planar graphs (which are dual to triangulations of the 2-dimensional sphere  $S^2$ ). In this talk I will present such a  $1/N$  asymptotic expansion for some particular class of 3-dimensional tensor models (called multi-orientable models). The leading order (and hence the dominant graphs, dual to particular triangulations of the 3-dimensional sphere  $S^3$ ), the next-to-leading order and finally some considerations on the combinatorics of the general term of this asymptotic expansion will be given."