Preliminary schedule of the talks (taken so far)

Graduate seminar on Analysis (S4B2), Summer Term 2018
Prof. Juan J. L. Velázquez, Dr. Arianna Giunti
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23.04.18: D. Cioranescu and F. Murat, *A strange term coming from nowhere.*

30.04.18: G. C. Papanicolaou and S. R. S. Varadhan, *Diffusion in regions with many small holes.*

14.05.18: G. Allaire, *Homogenization of the Navier-Stokes equations in open sets perforated with tiny holes.*

28.05.18: L. Desvillettes, F. Golse and V. Ricci, *The Mean-Field limit for solid particles in a Navier-Stokes flow.*

04.06.18: A. Bensoussan, J.L. Lions and G.C. Papanicolaou, *Asymptotic Analysis of Periodic Structure,* Ch.11 (Homogenization of equations of Maxwell's type).

11.06.18: A. Yu. Beliaev and S. M. Kozlov, *Darcy equation for random porous media*:
Talk 1 (2pm-4pm): Part 1,
Talk 2 (4pm-6pm): Part 2.

18.06.18: M.T Barlow and J.-D. Deuschel, *Invariance principle for the random conductance model with unbounded conductances.*

25.06.18: L. A. Caffarelli and A. Mellet, *Random homogenization of an obstacle problem.*

02.07.18: V. A. Marchenko and E. Y. Khruslov, *Homogenization of partial differential equations*, Chapter 2.

09.07.18: G. W. Milton and K. Solna, *Can mixing materials make electromagnetic signals travel faster?*

16.07.18: A. Connes, D. Kreimer, *Renormalization in quantum field theory and the Riemann-Hilbert problem I: The Hopf algebra structure of graphs and the main theorem.*[1]
Talk 1 (2pm-4pm),
Talk 2 (4pm-6pm).

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[1]For those who are interested in a first, introductory, reading on the topic we suggest the paper *"Hopf Algebras, Renormalization and Noncommutative Geometry"* by A. Connes and D. Kreimer.