



Harald Bohr Lecture Series

Stanislav Smirnov

Professor at Université de Genève,
(Switzerland) & Skolkovo Institute
of Science and Technology (Russia)

Awarded the Fields Medal in 2010



Photo: Klaus Tschira Stiftung / Peter Badge

Complex analysis and 2D statistical physics

“Over the last decades, there was much progress in understanding 2D lattice models of critical phenomena. It started with several theories, developed by physicists. Most notably, Conformal Field Theory led to spectacular predictions for 2D lattice models: e.g., critical percolation cluster almost surely has Hausdorff dimension $91/48$, while the number of self-avoiding length N walks on the hexagonal lattice grows like $(2+\sqrt{2})^{N/2} N^{11/32}$.

While the algebraic framework of CFT is rather solid, rigorous arguments relating it to lattice models were lacking.

More recently, mathematical approaches were developed, allowing not only for rigorous proofs of many such results, but also for new physical intuition. We will discuss some of the applications of complex analysis to the study of 2D lattice models.”

Tuesday 28 November 2017, 15:15-16:30

NEW LOCATION: Auditorium 1, HCØ, Universitetsparken 5

Coffee & cakes before the lecture, at 14:45 in the lunchroom at 4th floor.