Mathematisches Institut, Sidlerstrasse 5, CH-3012 Bern

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**UNIVERSITÄT
BERN**

Philosophisch-
naturwissenschaftliche Fakultät

Departement Mathematik und Statistik

Mathematisches Institut

Mathematical Colloquia

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Monday, 30 April 2018

17:15 h, Lecture Room B 78

Prof. Dr. Xiao Zhong, University of Helsinki

Random tilings, variational problems and the Beltrami equation

Abstract:

Interactions between analysis and random geometry is a topical area in mathematics. In dimension two, limit configurations of random structures often posses some conformal invariance properties. I will talk about the approach of geometric analysis in studying limit configurations of random tilings. It turns out that the liquid domains carry a natural complex structure described by a quasilinear Beltrami equation, with surprising properties.The talk is based on joint work with Kari Astala, Erik Duse and Istvan Prause.