



**UNIVERSITÄT
BIELEFELD**



Faculty of Physics



Faculty of Mathematics



THE UNIVERSITY OF
MELBOURNE

Seminar

Bielefeld - Melbourne Random Matrices

Antti Haimi

University of Vienna

Asymptotic normality of smooth statistics for planar determinantal point processes

I will discuss smooth linear statistics of determinantal point processes on the complex plane, and their large scale asymptotics. I will show a CLT in the case where variance stays bounded, and consequently Soshnikov's theorem is not applicable. The setting is similar to that of Rider and Virág for the complex plane, but replaces analyticity conditions by the assumption that the correlation kernel is reproducing. Our proof is a streamlined version of that of Ameur, Hedenmalm and Makarov for eigenvalues of normal random matrices, where we use the reproducing property in order to compensate for the lack of analyticity and radial symmetries.

Joint work with José Luis Romero.

**Wednesday, 23 November 2022,
0900 hrs CEST**

Zoom Konferenzschaltung— Please contact Leslie Molag
(lmolag@math.uni-bielefeld.de) for details regarding access