



**UNIVERSITÄT
BIELEFELD**



Faculty of Physics



Faculty of Mathematics



THE UNIVERSITY OF
MELBOURNE

Seminar

Bielefeld - Melbourne Random Matrices

Theodoros Assiotis

University of Edinburgh

On the joint moments of characteristic polynomials of random unitary matrices

I will talk about the joint moments of characteristic polynomials of random unitary matrices and their derivatives. In joint work with Jon Keating and Jon Warren we establish the asymptotics of these quantities for general real values of the exponents as the size N of the matrix goes to infinity. This proves a conjecture of Hughes from 2001. In subsequent joint work with Benjamin Bedert, Mustafa Alper Gunes and Arun Soor we focus on the leading order coefficient in the asymptotics, we connect this to Painleve equations for general values of the exponents and obtain explicit expressions corresponding to the so-called classical solutions of these equations.

Wednesday, 17 February 2021, 1000 hrs CET

Zoom Konferenzschaltung— Please contact Anas Rahman
(anas.rahman@live.com.au) for details regarding access