



## Mathematics and CS Seminar

# Joint Moments of $C\beta$ , Consistent Random Interlacing Arrays and Painleve Equations

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Host: Laszlo Erdős

In this talk, we will explore the joint moments of a characteristic polynomial of the Circular  $\beta$ -ensemble and its derivative. More precisely, we will show that after an appropriate rescaling, these moments converge to some function of the exponents  $s$  and  $h$  appearing in the moments, and discuss in which cases an explicit formula has been obtained. In doing this, we will delve into the theory of consistent measures and coherent random families of interlacing arrays, which prove to be very useful in proving convergence of the moments. Finally, we will discuss the connection of these moments to Painleve equations in the very special case of  $\beta=2$ . Based on joint works with Assiotis, Bedert and Soor (2020); and Assiotis and Soor (2021).

**Thursday, September 23, 2021 05:00pm - 05:50pm**

Heinzel Seminar Room (I21.EG.101), Office Building West



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.