

# International Banach Prize PTM Conference

18-19 May 2023

Banach Center Warsaw

## Invited lecture

### **Piotr Achinger**

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*Title:*

### **Differential equations and topology**

*Abstract:*

Systems of linear differential equations on a complex manifold (or an algebraic variety) are one of the basic tools for studying its topology. This link is particularly strong in the case of "regular" or "Fuchsian" singularities at infinity. I will discuss the Riemann--Hilbert correspondence between differential equations and representations of the fundamental group constructed by Deligne and developed further by Kashiwara and Mebkhout. At the end of the lecture I will mention some more recent advances extending Deligne's results to the context of non-Archimedean geometry.