

# **Student Workshop on Integrability**

Monday 16 June 2025 - Friday 20 June 2025

## **Book of Abstracts**



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## Exact quantum state preparation

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This course is an introduction to some approaches for exactly preparing multi-qubit states on a quantum computer. In Lecture 1, we begin with a brief review of quantum circuits; we then consider the GHZ state, and its preparation in constant depth. In Lecture 2, we introduce matrix product states and sequential state preparation; we consider the example of AKLT states, and their preparation in constant depth. In Lecture 3, we consider the preparation of Dicke states and Bethe states.

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## Quantum non-equilibrium dynamics with classical determinist circuits

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## Exact out-of-equilibrium dynamics with random unitary circuits

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