QUANTUM PHASE TRANSITIONS IN INTEGRABLE SYSTEMS:
A QUANTUM INFORMATION PERSPECTIVE

Content of lectures:

– What is a quantum phase transition? What is the connection to
   integrable systems and quantum information?

– Entanglement measures: How to calculate them for many-particle systems?

– A case study: Quantum phase transitions in the 1D Hubbard model

– Integrability of the 1D Hubbard model, Bethe Ansatz, and all that...

– Entanglement from the Bethe Ansatz

– Outlook: Open problems