





The Vienna Doctoral Programme on Complex Quantum Systems invites you to a

## **Alumnus Talk**

by **Tarik Berrada** *Wien Energie* 

## **Energy economics**

Modern energy markets, and particularly electricity markets, are undergoing major transformations. Deregulation revealed the volatility of energy prices, leading to the financialization of energy markets and the multiplication of financial energy derivatives. The increasing share of intermittent energy sources also calls for enhanced ancillary services in the power grid, such as a balancing power market, to ensure the balance between power generation and power consumption.

Energy economics draws heavily on quantitative methods. Forecasts play an increasing role as production from renewable sources challenges the stability of electricity grids. Powerful optimization methods are needed for the operation of complex and integrated energy systems. including various types of power plants, gas and district-heating networks and storage facilities.

In this talk, I want to share my experiences working on some of these topics for the Viennese communal utility *Wien Energie* 

Monday, 22 January 2018, 17:00 get-together with coffee and snacks!

Lise Meitner Hörsaal, Strudlhofgasse 4, 1st floor, Vienna

Hosted by: Jörg Schmiedmayer



