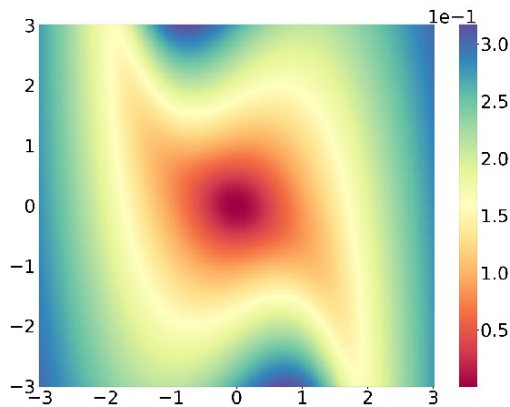


## Tuesday 21 February 2023 - Morning Talks

Magnus-Haus Berlin



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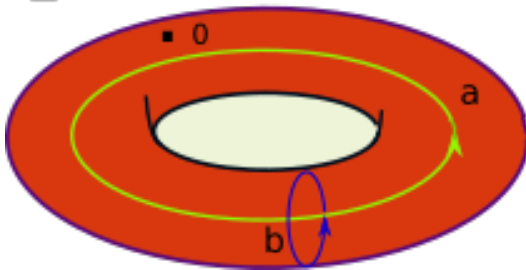
## 10:00 Tobias Breiten (TU Berlin)

## Optimal control and simulation of large-scale dynamical systems

This talk provides an introduction into and an overview of optimal control of complex systems from an (infinite-dimensional) system and control theoretic perspective. After a brief recap of control theory, some recent work on feedback control will be presented. In particular, Breiten will discuss theoretical and numerical challenges arising from high-dimensional Hamilton-Jacobi-Bellman equations and hypocoercive as well as transported dominated partial differential equations.

Tobias Breiten is professor of Mathematics and group leader of the research group in Modeling, Simulation and Optimization of Real Processes at TU Berlin. ▲

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## 10:30 Angela Ortega (HU Berlin)

## Understanding Abelian varieties

Abelian varieties are geometric objects which are at crossroads of several mathematical fields: algebraic geometry, number theory, complex analysis, cryptography, etc. After an introduction to the properties of the abelian varieties and how to study them in families, Ortega will explain a famous open problem concerning the space parametrising abelian varieties of dimension 6.

Angela Ortega is permanent researcher and part of the group of Algebraic Geometry at HU Berlin. Her research interests are the geometry of moduli space of vector bundles on algebraic curves, Brill-Noether theory, moduli of vector bundles on curves and Abelian and Prym varieties. ▲