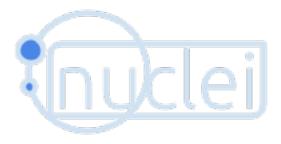
## **NUmerical methods for Compression and LEarning**



Contribution ID: 6 Type: Lecture Talk

## Compression of partial differential operators by numerical homogenization

Thursday, 12 May 2022 11:30 (1 hour)

Numerical homogenization is a methodology for the computational solution of multiscale partial differential equations. It aims at the compression of the corresponding partial differential operators to finite-dimensional sparse surrogate models. The surrogates are valid on a given target scale of interest, thereby accounting for the impact of features on under-resolved scales. This talk shows how to construct such surrogates by localized orthogonal decompositions and discusses the underlying mathematics as well as applications to random diffusion and Schrödinger operators.

**Primary author:** PETERSEIM, Daniel (University of Augsburg)

Presenter: PETERSEIM, Daniel (University of Augsburg)

Session Classification: Lecture talk