



Friedrich-Alexander-Universität
Research Center for
Mathematics of Data | MoD

FAU MoD Lecture Series



Bridging numerics and scientific machine learning for industrial applications

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MOD.FAU.EU

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WHEN

Monday **January 26, 2026**
11:30H (Berlin time)

WHERE

On-site / Online

Friedrich-Alexander-Universität
Erlangen-Nürnberg (FAU).
Room **H13 Johann-Radon-Hörsaal**
Felix-Klein building
Cauerstraße 11, 91058
Erlangen. Bavaria, Germany

Live-streaming:

<https://www.fau.tv/clip/id/59621>

In this talk, we discuss digital solutions designed to address industry-relevant problems. We first review several solvers based on established numerical methods that provide reliable foundations for these digital solutions. We then turn to more recent approaches based on Scientific Machine Learning, in particular, Physics Informed Machine Learning, which integrates physics-based models with machine learning methods. We highlight in detail the potential and advantages of Physics Informed Machine Learning and demonstrate how these translate into improved solutions across different industrial use cases, including optical lithography, battery modelling, semiconductor process simulations, and plastic deformation.