



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

Hosted by FAU MoD at Friedrich-Alexander-Universität Erlangen-Nürnberg, the #MLPDES26 workshop is the second edition of an international event that brings together researchers from Europe, UK and the United States to explore the growing connection between Machine Learning (ML) and Partial Differential Equations (PDEs) –two core fields in modern mathematics that are now developing a dynamic, mutually beneficial relationship.

Supported by the Chair for Dynamics, Control, Machine Learning and Numerics - Alexander von Humboldt Professorship, Politecnico di Bari and the Alexander von Humboldt Stiftung/Foundation, this event aims to establish a collaborative platform for participants from diverse backgrounds to network, sharing insights, and driving progress in these exciting fields.



# Machine Learning and PDEs

## #MLPDES26 WORKSHOP

June 22 - 24, 2026

ERLANGEN - BAVARIA, GERMANY



### WHEN

Mon.-Wed. **June 22 - 24, 2026**  
09:30H - 17:00H

### WHERE

**On-site.** FAU, Friedrich-Alexander-Universität Erlangen-Nürnberg  
Senatssaal (Senate Hall) im Kollegienhaus  
Universitätsstraße 15, 91054 Erlangen - Bavaria, Germany

**Online** (live streaming): [fau.tv/clip/id/63196](https://fau.tv/clip/id/63196)

### REGISTRATION

Free but mandatory  
Registration form: [dcn.nat.fau.eu/registration-mlpdes26](https://dcn.nat.fau.eu/registration-mlpdes26)

### SCIENTIFIC COMMITTEE

- Giuseppe Maria Coclite. Politecnico di Bari
- Enrique Zuazua. FAU, Friedrich-Alexander-Universität Erlangen-Nürnberg

### ORGANIZING COMMITTEE

- Darlis Bracho Tudares. FAU, Friedrich-Alexander-Universität Erlangen-Nürnberg
- Nicola De Nitti. Università di Pisa
- Lorenzo Liverani. FAU, Friedrich-Alexander-Universität Erlangen-Nürnberg

### AUDIENCE

This international workshop is open to: Public, Students, Postdocs, Professors, Faculty, Alumni and the scientific community all around the world



[mod.fau.eu/mlpdes26](https://mod.fau.eu/mlpdes26)



UNTERSTÜTZT VON / SUPPORTED BY

Alexander von  
**HUMBOLDT**  
STIFTUNG



Friedrich-Alexander-Universität  
DYNAMICS, CONTROL,  
MACHINE LEARNING  
AND NUMERICS



Politecnico  
di Bari

**#MLPDES26 Schedule • Time table**

	MON. JUNE 22, 2026	TUE. JUNE 23, 2026	WED. JUNE 24, 2026
09:20H 09:50H	Registration <b>Opening ceremony</b>	<b>Maria Bruna. Oxford</b> Microscopic interactions and macroscopic PDEs: Beyond the mean-field paradigm	<b>Emil Wiedemann. FAU</b> Beyond Incompatibility: Using Optimal Transport for Algorithmic Fairness
10:00H 10:30H	<b>Giuseppe Buttazzo. Unipi</b> Optimal data for elliptic PDEs	<b>Harbir Antil. GMU</b> Digital Twins and Beyond: A PDE-Constrained Optimization Perspective	<b>Sam G. Krupa. ENS-PSL</b> Are $L^\infty$ solutions to hyperbolic systems of conservation laws unique?
10:40H	COFFEE / TEA BREAK		
11:10H 11:40H	<b>Elena Celledoni. NTNU</b> Structure preservation and Deep Learning for Learning Mechanical Systems from Data	<b>Ulrik Fjordholm. UIO</b> The zero-noise limit for hyperbolic conservation laws	<b>Katharina Schratz. Sorbonne</b> Resonances as a Computational Tool
11:50H 12:20H	<b>Xue-Mei Li. EPFL</b> Rough PDEs, Long-Range Dependence, and Multi-Scale Dynamics	<b>Riccardo Adami. Polito</b> A mathematical model for the Einstein-Podolsky-Rosen phenomenon	<b>Luigi Berselli. Unipi</b> Womersley type flows for a non Newtonian fluid with variable exponent
12:30H	LUNCH BREAK		
14:00H 14:30H	<b>Ingenuin Gasser. Uni-Hamburg</b> Mathematical models in the context of renewable energies	<b>Lorenzo Pareschi. HW   Unife</b> Structure-Preserving Neural Surrogates for Uncertainty Quantification in Plasma Physics	<b>Closing ceremony</b>
14:40H 15:10H	<b>Gonzalo Cao-Labora. EPFL</b> Discovery of unstable singularities	<b>Francesco Maddalena. Poliba</b> Multiple Scales in a Nonlocal Evolution Equation of Continuum Mechanics	
15:20H 16:00H	<b>Jean-Michel Morel. Lingnan University.</b> On Interpolation Formulas Describing Neural Network Generalization	<b>Antonio Alvarez. UAM   FAU</b> Perceptrons and localization of attention's mean-field landscape	

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**Enrique Zuazua. FAU**

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