Physics Informed Neural Networks in Padova (PINN-PAD)

PADOVA, 22-23 February 2024

PROGRAM

Thursday, February 22 – Aula Nievo – Palazzo Bo

08.55 → 09.00	**Opening Remarks**	
09.00 → 10.00	**Anna Schwarz**	Recent advances and failures in the machine-learning enhanced solution of PDEs
10.00 → 10.50	CT1 Y. Saleh	Spectral learning for solving molecular Schrödinger equations
	CT2 M. Tanveer	Neural Network Approach to Learn Delay Differential Equations via Pseudospectral Collocation
10.50 → 11.20	*Coffee Break at caffè Pedrocchi*	
11.20 → 12.20	**Francesco Della Santa**	Graph-informed neural network and discontinuity learning
12.20 → 13.10	CT3 E. Chinellato	Physics-Aware Deep Nonnegative Matrix Factorization
	CT4 R. Boiger	Solving the Bateman Equation using Physics Informed Neural Networks
13.10 → 15.00	Lunch (not provided)	
15.00 → 16.00	**Gianluigi Rozza**	Accelerating Numerical Simulations by Model Reduction with Scientific and Physics-Informed Machine Learning
16.00 → 16.50	CT5 G. A. D'Inverno	Physics Informed Graph Neural Networks for AC Optimal Power Flow
	CT6 A. Jnini	Gauss-Newton Natural Gradient for Physics-Informed Computational Fluid Dynamics
16.50 → 17.20	*Coffee Break at caffè Pedrocchi*	
17.20 → 18.20	**Salvatore Cuomo**	Computational Paradigms in Scientific Machine Learning
20.30	Social dinner at Restaurant: Isola di Caprera, via Marsilio da Padova, 11	

Friday, February 23 – Aula E Giurisprudenza – Palazzo Bo

09.00 → 10.00	**Federica Bragone**	Physics-Informed Neural Networks for Power Systems Applications
10.00 → 11.15	CT7 F. Difonzo	Physics Informed Neural Networks for an Inverse Problem in Peridynamic Models
	CT8 A. Forootani	Application of Physics-Informed Neural Networks in Nonlinear Systems Identification and Parameter Estimation
	CT9 M. Hoefler	Parameter estimation in cardiac biomechanical models based on physics-informed neural networks
11.15 → 11.45	*Coffee Break at caffè Pedrocchi*	
11.45 → 13.00	CT10 A. Lovison	Brain memory working. Optimal control behavior for improved Hopfield-like models
	CT11 F. J. Barraza Henriquez	Wavenumber-Robust Deep ReLU Neural Network Emulation in Acoustic Wave Scattering
	CT12 F. Marchetti	Predicting coronal mass ejections' travel times by using physics-informed loss functions
13.00 → 14.45	Lunch (not provided)	
14.45 → 15.45	**Paola Antonietti**	Machine Learning-enhanced Polytopal Finite Element Methods
15.45 → 16.10	CT13 I. Bioli	Multi-Fidelity Neural Network Surrogate Modeling for Large-Scale Bayesian Inverse Problems
16.10 → 16.15	**Concluding Remarks**	