

Scientific Machine Learning, emerging topics

Report of Contributions

Contribution ID: 1

Type: **not specified**

Deciphering Thrombosis: Advancing Multi-Scale Modeling with THRONE

Tuesday, June 18, 2024 2:30 PM (1 hour)

Presenter: LAUDATO, Marco (KTH Royal Institute of Technology)

Contribution ID: 2

Type: **not specified**

DeepONet-based inverse approximator in matrix-free applications

Tuesday, June 18, 2024 5:00 PM (30 minutes)

Presenter: MILLEVOI, Caterina (University of Padova)

Contribution ID: 3

Type: **not specified**

Operator Learning for Ionic Models in Biomathematics

Tuesday, June 18, 2024 4:00 PM (30 minutes)

Presenter: CENTOFANTI, Edoardo (Università degli Studi di Pavia)

Contribution ID: 4

Type: **not specified**

SOGA: Second Order Gaussian Approximation of Probabilistic Programs

Tuesday, June 18, 2024 3:30 PM (30 minutes)

Presenter: RANDONE, Francesca (University of Trieste)

Contribution ID: 5

Type: **not specified**

Turbulence Subgrid Closure for the Lattice Boltzmann Method via Artificial Neural Networks

Tuesday, June 18, 2024 5:30 PM (30 minutes)

Presenter: ORTALI, Giulio (Eindhoven University of Technology, SISSA International School for Advanced Studies)

Contribution ID: 6

Type: **not specified**

Domain Decomposition and Machine Learning - Two Mutually Beneficial Areas

Wednesday, June 19, 2024 9:30 AM (1 hour)

Presenter: KLAWONN, Axel (Universitaet zu Koeln)

Contribution ID: 7

Type: **not specified**

A Reduced Order Approach for Artificial Neural Networks applied to Object Recognition

Wednesday, June 19, 2024 11:00 AM (30 minutes)

Presenter: MENEGHETTI, Laura (SISSA)

Contribution ID: 8

Type: **not specified**

A comparative review of regression techniques for predicting the physical characteristics of ship engines

Friday, June 21, 2024 12:00 PM (30 minutes)

Presenter: MOHAMMADIZADEHSOROUEI, Fatemeh (SISSA)

Contribution ID: 9

Type: **not specified**

Deep learning approaches for meshless surrogate models in variable geometries

Wednesday, June 19, 2024 11:30 AM (30 minutes)

Presenter: PAGANI, Stefano (MOX-Dipartimento di Matematica, Politecnico di Milano)

Contribution ID: **10**

Type: **not specified**

Unfolding the Kalman Filter iterations in a machine learning framework

Friday, June 21, 2024 11:30 AM (30 minutes)

Presenter: MARCUZZI, Fabio (Università degli Studi di Padova)

Contribution ID: 11

Type: **not specified**

Deep unfolding for matrix factorizations

Wednesday, June 19, 2024 12:00 PM (30 minutes)

Presenter: CHINELLATO, Erik (Università degli Studi di Padova)

Contribution ID: 12

Type: **not specified**

Discovery of Dirichlet-to-Neumann Maps on Graphs via Gaussian Processes

Friday, June 21, 2024 11:00 AM (30 minutes)

Presenter: PROPP, Adrienne (Stanford University)

Contribution ID: 13

Type: **not specified**

Delta-PINNs: physics-informed neural networks on complex geometries

Wednesday, June 19, 2024 2:30 PM (1 hour)

Presenter: PEZZUTO, Simone (Università di Trento)

Contribution ID: 14

Type: **not specified**

Graph-based machine learning approaches for model order reduction

Wednesday, June 19, 2024 3:30 PM (30 minutes)

Presenter: PICHI, Federico (SISSA)

Contribution ID: 15

Type: **not specified**

Data-driven Inference of Chemical Reaction Networks via Graph-based Variational Autoencoders

Friday, June 21, 2024 9:30 AM (1 hour)

Presenter: CAIROLI, Francesca (Università di Trieste)

Contribution ID: 16

Type: **not specified**

Learning stability on graphs

Wednesday, June 19, 2024 4:00 PM (30 minutes)

Presenter: BARLETTA, Antoniorenè (Spici srl)

Contribution ID: 17

Type: **not specified**

Poster Session

Wednesday, June 19, 2024 5:00 PM (2 hours)

Accepted posters:

Andrea Bonfanti

Matteo Tomasetto

Pavan Pranjivan Mehta

Taniya Kapoor

Jonas Actor

Guglielmo Padula

Johannes Müller

Kateryna Morozovska

Federica Bragone

Jonas Nießen

Francesco Giacomarra

Sajad Salavatidezfouli

Kabir Bakhshaei

Luca Pellegrini

Ivan Cucchi

Contribution ID: 18

Type: **not specified**

Pre-trained physics-informed deep learning-based reduced order models for nonlinear parametrized PDEs in small data regimes

Thursday, June 20, 2024 4:00 PM (30 minutes)

Presenter: BRIVIO, Simone (Politecnico di Milano)

Contribution ID: 19

Type: **not specified**

Rate estimates of ONets

Thursday, June 20, 2024 9:30 AM (1 hour)

Presenter: SCHWAB, Christoph (SAM ETH)

Contribution ID: 20

Type: **not specified**

Latent Dynamics Networks (LDNets): learning the intrinsic dynamics of spatio-temporal processes

Thursday, June 20, 2024 11:00 AM (30 minutes)

Presenter: REGAZZONI, Francesco (MOX, Dipartimento di Matematica, Politecnico di Milano)

Contribution ID: 21

Type: **not specified**

PINA: a PyTorch Framework for Solving Differential Equations with Deep Learning

Thursday, June 20, 2024 3:30 PM (30 minutes)

Presenter: COSCIA, Dario (SISSA)

Contribution ID: 22

Type: **not specified**

Mesh-informed reduced order models for aneurysm risk prediction

Thursday, June 20, 2024 11:30 AM (30 minutes)

Presenter: D'INVERNO, Giuseppe Alessio (SISSA)

Contribution ID: 23

Type: **not specified**

Solving the inverse problem in complex systems via machine learning: challenges and perspectives

Thursday, June 20, 2024 2:30 PM (1 hour)

Presenter: SIETTOS, Constantinos (University of Naples Federico II)

Contribution ID: 24

Type: **not specified**

Parameterization learning for scattered data adaptive spline fitting

Thursday, June 20, 2024 12:00 PM (30 minutes)

Presenter: IMPERATORE, Sofia (University of Florence)

Contribution ID: 25

Type: **not specified**

Panel Session

Thursday, June 20, 2024 5:00 PM (1 hour)

Contribution ID: 26

Type: **not specified**

Registration

Tuesday, June 18, 2024 1:30 PM (45 minutes)

Contribution ID: 27

Type: **not specified**

Opening

Tuesday, June 18, 2024 2:15 PM (15 minutes)