

# A Novel Computational Paradigm for approximation, data analysis and representation: the Scientific Machine Learning

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Nowadays in the age of the Internet of Data (IoD), methods and models for data analysis and representation play a key and crucial role in any application field. Numerical methods for data analysis and representation, have to be (re)designed and (re)thought by considering learning approaches. Classical Scientific Computing fruitfully intersects Machine learning to boost the accuracy and efficiency of numerical algorithms. In this talk, we present some applications related to the fascinating world of Artificial Intelligence research field oriented to Scientific Computing.

Presented results are in M.O.D.A.L.- Mathematical modelling and Data Analysis Laboratory  
<http://www.labdma.unina.it>

## References

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- [2] Cuomo, S., Giampaolo, F., Izzo, S., Nitsch, C., Piccialli, F., Trombetti, C. A physics-informed learning approach to Bernoulli-type free boundary problems. *Computers & Mathematics with Applications*, 128, 34-43, 2022.