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Centro de Investigação em Matemática e Aplicações
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Zoom address: <https://videoconf-colibri.zoom.us/j/91482878119>

On the use of Machine Learning to solve Data Assimilation and Inverse Problems

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Abstract. Machine learning (ML) has made impressive advances in recent times. This is largely due to the data deluge, the availability of computing power and the development of open source software. However, the use of ML for solving scientific problems requires additional effort, since there is no guarantee that the ML solution will respect and follow the underlying physics, chemistry, biology, etc. There are also ethical issues to consider. In this talk, we will discuss the latest approaches for the coupling of ML and CSE (Computational Science and Engineering), in particular with respect to the solution of real-world, complex systems and processes. Examples will be given, both from our own research on Li-ion batteries and from recent projects of NVIDIA, Microsoft, META and others.

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