



Vabilo na Preglov kolokvij / Invitation to the Pregl colloquium

## **Prof. Dr. Nicola Marzari**

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**Četrtek / Thursday, 20. 2. 2025, ob / at 13:00**

Velika predavalnica Kemijskega inštituta /  
Great Lecture Hall  
National Institute of Chemistry  
Hajdrihova 19, Ljubljana, Slovenia

## **The shape of things to come**

The well-being of 8 billion+ people and the sustainability of our development model are defining challenges for our times. At the core of our human footprint lie materials: they enable the technologies that power our economy and that support our society. With the above goals in mind, computational design and discovery of novel materials provides a powerful accelerator for our scientific and technological innovation pipeline. I'll illustrate here capabilities and challenges in 1) predicting accurately materials properties and performance from first principles, 2) capturing the realistic complexity of materials, and 3) leveraging the novel ideas coming from machine learning and AI. Examples will cover materials for energy (Li-ion cathodes and solid-state conductors) and materials for information-and-communication technologies (from low-dimensional materials to superconductors).

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Vljudno vabljeni / Kindly invited