

The Chemist's Interactions

Seminars @ the Chemistry Department



Friday, 20th May 2022

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From saving pharmaceuticals to saving priceless historical artefacts via saving the planet: understanding nanostructure with x-rays and algorithms

Nanoparticles and nanostructures are at the heart of next generation technological solutions in sustainable energy, effective new pharmaceuticals and environmental remediation. A key to making progress is to be able to understand the nanoparticle structure, the arrangements of atoms in the nanoparticles and nanoscale structures. Also critical is understanding the distribution of the nanoparticles and how they change in time as devices run and reactions take place. We use advanced x-ray, neutron and electron scattering methods to get at this problem. I will talk about these methods and show some recent success-stories in the fields of sustainable energy, pharmaceuticals and cultural heritage preservation. However, I will also discuss the fundamental limitations on our ability to extract information from the data and how we are now turning to machine learning and artificial intelligence techniques to give more insights.



zoom

The event will be streamed on zoom.us
for external participants!

For registrations: valentina.colombo@unimi.it



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