Machine Learning Meets Chemistry
Pre-Event "Warm-Up"

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Introduction to Machine Learning and Data Analysis

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Dipartimento di Chimica - *Aula D1 - 14:30-15:30*
Via Pietro Giuria 9 - *V piano*, 10125 Torino

In the last decade, we have experienced an immense spread of digital information and autonomous devices, and their rate of production and distribution is exponentially increasing as we speak. For this huge flood of heterogeneous and complex data and systems to become valuable and with a significant impact on our lives, more effective and efficient data analysis techniques need to be developed. To this aim, research on Machine Learning (ML) and Data Analysis has considerably increased in recent years. There is a countless number of applications that gained tremendous advantages and many more that have even become possible thanks to the recently developed ML technologies. Application contexts range from medicine, industry, agriculture and robotics to marketing, finance, security and human assistance, to name a few. What is Machine Learning then, and how it works? Why has it become a game-changing technology able to dive into this ocean of raw and chaotic digital flow and uncover hidden high-level patterns and structures? The aim of this seminar is to provide an introduction to Machine Learning, from its definition and motivations to an overview of its algorithms and methodologies. Examples on different application scenarios will be given and the fundamental steps of the ML workflow will be described.

Prof. P. Ugliengo and Dr. Cutini

Prof. Marco Vincenti
(Direttore Dipartimento di Chimica)