Short Biography:

Dr Cora graduated in Chemistry at the University of Torino (Italy), and continued with a PhD at the Royal Institution of Great Britain. In 2001 he has been awarded a prestigious EPSRC Advanced Research Fellowship; in 2005 he joined UCL, where he is currently Reader in Computational Chemistry.

His research interests cover the functional applications of transition metal bearing crystalline solids, ranging from (multi)ferroic to energy storage applications, and the catalytic activity of nanoporous zeolites and related materials. Particular attention is dedicated to developing the predictive application of modelling methods, and to study systems where unusual behaviour is observed experimentally that would benefit from the atomic-level insight enabled by modelling. From a methodological perspective, he pioneered the application of hybrid-exchange density functionals of DFT to study structural and electronic properties of solids.

In the area of microporous materials, he investigates the synthesis and structural features of transition metal-doped aluminophosphates (Me-APOs), and their catalytic applications. A recent success is the study of the aerobic oxidation of hydrocarbons in Fe,Co,Mn-doped AlPOs, where the computational results cover the whole catalytic cycle, with over 30 different intermediates and elementary reaction steps.