

# **Aqueous solutions under nanoconfinement**

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## **ABSTRACT**

We will present results from molecular dynamics experiments that examine equilibrium and dynamical characteristics of a series of aqueous solutions confined within environments of linear dimensions of the order of 1-2 nm. The systems under investigation include water-acetonitrile solutions, aqueous solutions of simple electrolytes and water-ionic liquid solutions, confined within carbon nanotubes and model silica pores, with different functionalization at the pore wall. In particular we focused attention on identifying clear distinctive features in the local and global concentration fluctuations and in the modifications operated in the mechanisms that control mass and charge transports within the tubes.