

EUROMAT 2019 / Area A

SYMPOSIUM: A4

Title: Nanoporous solids and metal organic frameworks (MOFs)		
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Abstract		
<p>The objective of this symposium is to provide a forum for a discussion of the current most important fundamental aspects and applications of nanoporous materials. These materials have important practical potential for separation, purification of fluids, and storage (of gases, biological molecules, polymers, nanoparticles). Adsorption and diffusion are the main physical phenomena used in applications and to characterize these materials. However, the complex structures of porous system and the intricate mechanism of adsorption and diffusion require intensive use, in parallel, of the experimental and numerical modeling research tools. The specific field and techniques which will be discussed during the symposium are:</p> <ol style="list-style-type: none">1. Thermodynamics of fluids adsorbed and capillary phenomena2. Intermolecular interactions in porous confinements3. Screening and computational design4. Adsorption induced deformation and phase transformations of porous frameworks5. Energetic heterogeneity and structural disorder of surfaces6. Adsorption and mercury porosimetry, liquid intrusion techniques7. Characterization techniques for porous materials8. Microscopy, image analysis and scattering techniques9. Industrial applications and geoscience: shale, coal, soil10. Adsorption of polymers, proteins, and nanoparticles in pores		