

**EUROMAT 2017/ Symposia Structure/Area B**

<b>Title: Hybrid and Metal-Organic Framework (MOF) Materials</b>		
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<b>Summary</b>		
<b>B.7</b>	<p>The Symposium covers Metal-Organic Framework (MOF) Materials as microscopic material systems and Hybrid Materials and Structures as material combinations more on the meso- and macroscopic level.</p> <p>Hybrid framework materials are constructed from a combination of organic and inorganic units at the molecular/nanoscale level. The incredibly rich structural diversity and chemical versatility of such materials can lead to the emergence of many unique and novel properties that opens access to a wide spectrum of multifunctionalities not present in traditional materials.</p> <p>The exploration of structure-function relationships has attracted considerable interests in broadening the combination of chemically bound organic and inorganic building blocks to yield an increasingly large number of 1D, 2D and 3D framework materials and hybrid composite systems. In this respect, metal-organic frameworks (MOFs) are amongst the most extensively studied hybrid framework materials and they have garnered major developments in the last decade mainly because of their nanoporous architectures and tunable physical and chemical properties.</p> <p>Material combinations of polymeric composite materials and metals at a larger length scale are considered as Hybrid Materials and Structures. Hybridization on mesoscopic scale could be layered materials of fiber reinforced polymers and metallic foils (fiber-metal-laminates) as well as reinforcements with different types of fibers. On macroscopic scale inherent joining of different materials to a multi-material structure is understood as hybrid structure. Independent of the length scale, materials are combined in such a way, that synergies of specific properties are obtained.</p> <p>In light of the rapid advances witnessed in the field, this Symposium aims at covering both fundamental aspects in the design, synthesis and characterization of hybrid and metal-organic framework materials and their technologically relevant multifunctional properties and innovative new applications. Furthermore, it also aims at gathering and connecting people that work at the cutting-edge research of the field by sharing their knowledge from materials science, chemistry, solid-state physics, crystalline engineering and biology.</p> <p>New trends and exciting topics will be discussed, ranging from self-assembly and emergence of complexity in organic/inorganic hybrids to multifunctional supramolecular hierarchical nanoparticles, from host-guest confinement strategy to gas storage, sensing and drug delivery, from tunable opto-electronic features and enhanced photo-stability/activity to film deposition and nanofabrication of MOFs for integration in microelectronic devices. Common</p>	

	research topics of hybrid material systems on meso- and macroscale are interfacial behavior, residual stresses, mechanical behavior, processing and many more. Contributions covering experimental and theoretical aspects are invited.
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