

EUROMAT 2017/ Symposia Structure/Area A

A.5	Title: Colloidal Nanoparticles: Synthesis, functionalization and applications		
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	Summary		
	<p>Inorganic Colloidal nanocrystals are employed in several fields of science ranging from biology and medicine and the development of new diagnostic methods, drug delivery, and imaging, to physics and engineering and the fabrication of novel devices for energy conversion and storage. The major reason for the vast range of applications for colloidal nanocrystals is the ability to easily tune the density of their electronic states, which allows the control of their magnetic, optical, electrical, catalytic and mechanical properties, characteristic for different materials. The control over the properties of these nanocrystals can be achieved by chemically adjusting their size, shape, and composition as well as by carefully selecting the ligands to coat their surface in order to retain the stability and target ability. At this symposium we aim to cover the current state of art in colloidal nanoparticle synthesis and functionalization as well as their applications in Biomedical and Physical Sciences.</p>		
	<p>The topics include but they are not limited to:</p> <ul style="list-style-type: none"> • Synthesis of Colloidal Nanoparticles of various chemical compositions and various shapes including nanorods, nanowires, spheres and other complex structures. • Doping of nanoparticles. • Purification methods for narrowing colloidal nanoparticles' dispersity. • Surface chemistry of colloidal nanoparticles of various morphologies. • Self-assembly of Nanoparticles: From nanoparticle oligomers to higher hierarchy structures. • Colloidal Nanoparticles in Biomedical applications. • Colloidal Nanoparticles in Biosensing. • Colloidal Nanoparticles in Devices including LEDs and photovoltaics. • Colloidal Nanoparticles in Catalysis. 		