

EUROMAT 2017/ Symposia Structure/Area A

A.2	Title: Innovations in Functional Nanomagnets		
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Summary			
<p>This Symposium aims to assemble scientists not only from Europe, but also world-wide, who work on the field of magnetic nanomaterials. Magnetic nanomaterials have been in the center of scientific interest the last few decades due to their importance for fundamental as well as for applied research. Magnetic sensors are everywhere: in cars, homes, factories and new applications in biomedical and nanoengineered devices are reported nearly on a monthly basis. Spintronics and recently Spin-Logic dominates the discussions and research efforts for near future electronic devices and quantum computers. Magnetic hybrid nanoparticles, for example, after long-term efforts to be employed in magnetic recording, nowadays they are of main importance in nanomedicine for drug delivery. Magnetic multilayers and thin films are already used in the magneto-optical hard discs. In combination with miniature read heads they have bring the personal computers and laptops in the terabyte storage area, nowadays. P. Grunberg and A. Fert have been awarded with a Noble of Physics for progress in magnetic nanomaterials. Furthermore, innovative complex materials for ferroic cooling or a new class of naturally formed nanolaminated magnets (MAX-phases) have come to the center of interest for energy relevant applications.</p> <p>Authors are welcome to present their works on modern magnetic nanomaterials with emphasis on functionalization for applications. Potential topics include, but not limited to:</p> <ul style="list-style-type: none"> • Recent developments in synthetic procedures of magnetic heterostructures • Advances in interface nanomagnetism (ferro/antiferro, hard/soft interfaced nanomagnets) • Latest technologies for biomagnetic evaluation and nanotoxicity issues of magnetic nanostructures • Multifunctional role of magnetic interfaces • Interface mechanisms using model systems (multilayers, core/shell particles) • Role of magnetic anisotropy and coupling at the nanoscale and macroscopic magnetic behavior • Recent advances in nanomagnetically driven interface magnetic applications (i.e spintronics, magnetic recording) • Low dimensional (quantum dots, nanowires, nanowhiskers) magnetic materials: Formation and Properties 			