	Title: Powder routes: from synthesis to processing		
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	Summary		
C3	Synthesis and processing are two of the most important steps in the area of powder technology. These two highly coupled topics will be treated in this symposium on powders. The final aim of obtaining a material with controlled microstructure for specific applications will guide the symposium. As well as finely tailoring powder characteristics for controlled microstructure, the production and processing of powders at the industrial level will also be an important theme for the symposium. Industrial participation is thus highly encouraged. Progress in mature technologies and advances in new technologies will depend on a fine understanding of the chemical, physical and mechanical mechanisms driving the powder route. Modelling, both analytical and numerical, of these mechanisms and of their coupling is an essential step that will be emphasized in the symposium. Research on powder developments for new processing technologies such as additive manufacturing are welcomed. Abstracts on the following topics are sought for: **Powder synthesis** - tailored powders with innovative methods via chemical engineering (solution precipitation, fluid phase) to mechanical methods (high energy milling, mechanical alloying). - reactor engineering for innovative powers - surface functionalization and core-shell particle - modelling of powder synthesis **Powder processing** - self-assembly and tailored nanostructures - field assisted sintering (SPS, microwave, flash sintering, dynamic compaction, …) - powders in additive manufacturing - near-net complex shape processes (hot-pressing, Powder Injection Molding, sinter-forging, …) - controlled microstructure and microstructure development (ultra-fine grains, , Functionally Graded Materials, porous materials, …) - powder processing modelling		