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ON ADVANCED MATERIALS AND PROCESSES

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Area C

Symposium C.9

Title: Advanced Ceramic Materials Processing

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Abstract

The production of advanced ceramics requires novel strategies facilitating both sustainable growth and cleaner production routes to provide environmentally friendly materials while reducing the impact of different contamination sources. On this basis, the scope of this symposium is to encourage ceramic scientists and engineers to present their latest results on novel aspects of the most recent technologies related to the processing of ceramics, including the development of novel synthesis routes, the optimization of powder characteristics through controlled beneficiation, the improved dispersion and rheology by colloidal routes, the study of the effect of biomolecules and eco-friendly additives, the theoretical and practical development of innovative shaping routes, the most recent advances in the fast sintering techniques, and any other aspect of ceramic processing leading to improved performance and microstructure, enhanced properties and reduction of environmental impact and energy consumption. Contributions related to novel additive manufacturing methods for the design and fabrication of complex shaped parts with tailored porosity are encouraged as well as the design of novel processing strategies for the manufacture of tailored microarchitectures by lamination, texturing, freezing, and related processes.

The targeted topics for this symposium are the following:

- Novel powder synthesis routes
- Beneficiation and modification of powders
- Dispersion and rheology of suspensions
- Dry processing methods
- Pastes and plastic forming
- Shaping of porous ceramics
- Processing of polymer-derived ceramics
- Additive manufacturing methods
- Manufacture of thin and thick films, coatings and laminates
- Fast sintering technologies