

Symposium 21: Specific Reaction Field and Material Fabrication Design

Now, traditional material processing is becoming saturated and it is more and more difficult to fabricate innovative materials. For innovative material fabrication, innovative fabrication design is needed. One of the innovative material fabrication design realization means includes the use of specific reaction field. As specific reaction field, ultrasonic, microwave, laser, supercritical fluid, implosion, hydrothermal, solvothermal, etc. are included. These specific reaction fields are different from conventional reaction fields in the viewpoint of local reactor as non-equilibrium and non-linear, reaction temperature, pressure, time, and so on. These characteristics are specifically affected for nucleation, atom diffusion and growth in material fabrication. Thus specific reaction field are very important for innovative material design and innovative processing, new material fabrication. In this session, new material and material processing using specific reaction field will be discussed for material fabrication design. New material, strange structure, nanoparticle, film, bulk, 3D, morphology control, sintering, function, etc. are included

<PROPOSED SESSION TOPICS>

- New Material, Strange structure, Nanoparticle, Film, Bulk, Synthesis, Sintering, Function
- Ultrasonic Processing, Microwave Processing, Laser Processing, Supercritical Fluid Processing
- Hydrothermal, Solvothermal Processing, Implosion Processing

<ORGANIZERS>

Yamato Hayashi, Tohoku University, Japan, email: hayashi@aim.che.tohoku.ac.jp

Shu Yin, Tohoku University, Japan

Takahiro Nakamura, Tohoku University, Japan

Takashi Shirai, Nagoya Institute of Technology, Japan

Masaru Watanabe, Tohoku University, Japan

Naoya Enomoto, National Institute of Technology, Ariake College, Japan

Yunzi Xin, Nagoya Institute of Technology, Japan

Wenbin Cao, University of Science and Technology Beijing, China

Soo Wahn Lee, Sunmoon University, Korea

Stephan Barcikowski, University of Duisburg-Essen, Germany

Sébastien Vaucher, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland

Maria-Magdalena Titirici, University of London, England

Sivakumar Manickam, The University of Nottingham Malaysia Campus, Malaysia

<INVITED LECTURES>

Tentative invited lecture information is posted in the following URL;

http://www.ceramic.or.jp/pacrim13/list_of_invited_speakers.html#21