Symposium 15:
Advanced Nanocharacterization and Atomic-Scale Modeling of Grain Boundaries and Interfaces in Ceramics: Structures, Dynamics and Properties

Understanding the fundamental role of grain boundaries and interfaces in ceramics down to atomistic scale is the key to design next-generation ceramics applied for energy, device, automotive, aircraft and medical fields. Rapid progress in nanocharacterization and computational approaches has been enabling precise modelling of ceramic grain boundaries and interfaces from their detailed atomic-scale structures to their nano-scale dynamic behaviors. This symposium will focus on the forefront of nanocharacterization and theoretical modeling of ceramic grain boundaries and interfaces for the future design of novel structural and functional ceramics with desired properties. This symposium will cover a broader field of ceramic interface topics: grain boundaries, domain boundaries, surfaces and heterointerfaces, with special focus on their structure –property relationships from the atomistic scale.

<PROPOSED SESSION TOPICS>

•Advanced Nanocharacterization techniques and computer modellings for interfaces
•Grain boundary and interface structures
•Microstructure evolution and grain growth
•In-situ observations and dynamics

<ORGANIZERS>

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<INVITED LECTURES>

Tentative invited lecture information is posted in the following URL;
http://www.ceramic.or.jp/pacrim13/list_of_invited_speakers.html#15