

## **Symposium 6: Environmental Functional Materials**

Environmental problems such as global warming and air and water pollution become serious year by year, and effective new countermeasure technologies are demanded. Various environmental ceramic materials can contribute to mitigation of these problems by reducing environmental loads. The “environmental materials” concept does not merely include materials for separation, decomposition, or sensing of hazardous substances, but ranges for reducing CO<sub>2</sub> emissions, enhancing energy conservation, harvesting water, and supporting efficient chemical reaction, energy conversion, and resource recovery. Today, investigations of environmental materials are widely conducted in academia and various industries, and such materials have become an important research topic in the materials science field. Solid surfaces represent a field of chemical reaction and a direct interface against other substances, light, heat, and electric charges for the solid itself. If we can control chemistry and structure of solid surface appropriately, then we can impart specific properties onto the solid or increase its original performance remarkably. This symposium specifically examines design, efficient processing, and perspicuous evaluations of environmental materials and related technologies from the viewpoint of surface–interface engineering to elucidate current conditions and prospective challenges for this field of materials research.

### **<PROPOSED SESSION TOPICS>**

- Catalysts
- Photocatalysts
- Materials and technologies related to environmental purification
- Materials for environmental sensing
- Materials for water harvesting
- Energy-saving materials and related technologies
- Separation materials
- Materials and related technologies on resource recovery
- Green processes for materials
- Other surface functional materials

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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#6](http://www.ceramic.or.jp/pacrim13/list_of_invited_speakers.html#6)