Preface

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The International Symposium on Eco-Materials Processing and Design (ISEPD) has been held every year in Korea, Japan, and China from 2000 to 2010. The 12th ISEPD (ISEPD2011) was held in Chiang Mai, Thailand on January 9–13, 2011. The ISEPD2011 conference provided a platform where researchers and scientists were able to present the most advanced and novel scientific findings and technological developments in terms of all aspects of environment and eco-materials-related issues in materials processing and design. Key topics of the conference were: (1) photocatalysts, (2) nanomaterials, (3) fuel cell/hydrogen storage materials/energy materials, (4) recycling/substitution of hazardous materials, (5) eco-materials and hybrid materials, (6) novel materials synthesis and processing technology, (7) advanced functional materials, (8) synthesis and properties of semiconducting materials and related areas, (9) bio-inspired materials for a better life and other novel materials, (10) porous materials, and (11) dye-sensitized solar cells for utilization of solar energy.

This special issue of *Research on Chemical Intermediates* consists of the manuscripts which were presented in the “Photocatalysts” session of ISEPD2011. The aim of the symposium was to give an overview of the present status with regard to historical background and to foresee future trends in the field of photocatalyst research. The symposium was composed of 6 selected oral talks and 18 poster presentations. Many fruitful and exciting research achievements were presented at the symposium, not only in the fundamental subjects, such as research on reaction

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Fig. 1 Group photograph of the participants of the ISEPD2011 held in Chiang Mai, Thailand on January 9–13, 2011

mechanisms, but also in new photocatalytic materials involving pyrochlore compounds and nanocomposite materials of SiC/TiO_2 or $\text{CaAl}_2\text{O}_4/\text{TiO}_2$, utilization of visible light, etc., indicating that the photocatalytic process is a powerful and sustainable technology. Only 13 selected and extended papers were accepted and revised to be published in this special issue.

This symposium provided a good chance for scientists to communicate and exchange new ideas of science and technology as well as recent scientific findings and technological developments with one another (Fig. 1). We would like to express our sincere appreciation to all of the members of the International Advisory Committees, the Organizing Committee, and the speakers. We are also very grateful to all of the authors who submitted their manuscripts and revisions. Finally, thanks also go to the reviewers, who spent a lot of time and effort reviewing and commenting on all of the manuscripts. We hope that this special issue will be accepted as an original and valuable contribution to the literature in the field.