Special Issue on Growth of Ecomaterials as a Key to Eco-Society V

PREFACE

Currently, ecomaterials are clarified by emphasizing interdisciplinary approaches that integrate advanced materials science and engineering methods with environmental awareness to yield energy and materials efficient technologies. On 11th March 2011, we suffered great damage from the Great East Japan Earthquake in Japan. One of biggest damages was power shortages caused by the shutdown of the nuclear power reactors. We have learned of how important the efficient use of power is. Power-saving systems, products and materials have been paid much more attention to than more power generation.

In 1993, Ecomaterials Forum was established by the Society of Non-Traditional Technology (SNTT). Ecomaterials have been spread as an academic keyword in the world to design materials for reduction of environmental burden through recycling, reusing and dematerialization. The establishment of closed-loop materials inventory is essential for the development of the environmentally-friendly manufacturing and materials processing. Moreover, advancing the multi-functionality should extend the expiration date. A series of international conferences have been held to build up the academic network: Ecomaterials Conference, Eco-Design Conference, Eco-Balance Symposium and Exhibition of Eco-Products.

Ecomaterials are designed to have minimal impact on the biosphere, fabricated by methods that preserve and recycle resources, and that are implemented for the betterment of society. The 10th International Conference on Ecomaterials was held at Shanghai Jiao Tong University in China from 21st to 24th on November 2011. It was organized by a conference chair of Prof. Baode Sun, Shanghai JiaoTong University with co-sponsorship of Youth Committee of Chinese Materials Research Society, China, Ecomaterials Forum of the Society of Non-Traditional Technology, Japan, Baosteel Group Corporation, China and Shanghai JiaoTong University, China. There were special topics presented on Materials LCA, Materials Recycling, Energy Related Materials, Advanced Materials Processing and Novel Ecomaterials.

In this special issue as well as July 2003, December 2005, December 2007 and May 2010 issues in Materials Transactions, contributed papers were compiled to explain the present situation and future prospects of Ecomaterials in the global network. We hope this special issue will help these fields development.

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