

Preface

2013 Asian Pacific Conference on Chemical, Material and Metallurgical Engineering (APCCMME 2013) will be held on May 22-23, 2013, Beijing, China.

Chemical engineering is the branch of engineering that applies the physical sciences (e.g., chemistry and physics) and/or life sciences (e.g., biology, microbiology and biochemistry) together with mathematics and economics to processes that convert raw materials or chemicals into more useful or valuable forms. In addition, modern chemical engineers are also concerned with pioneering valuable materials and related techniques – which are often essential to related fields such as nanotechnology, fuel cells and biomedical engineering. Within chemical engineering, two broad subgroups include 1) design, manufacture, and operation of plants and machinery in industrial chemical and related processes ("chemical process engineers"); and 2) development of new or adapted substances for products ranging from foods and beverages to cosmetics to cleaners to pharmaceutical ingredients, among many other products ("chemical product engineers").

Materials science, also commonly known as materials engineering, is an interdisciplinary field applying the properties of matter to various areas of science and engineering. This relatively new scientific field investigates the relationship between the structure of materials at atomic or molecular scales and their macroscopic properties. It incorporates elements of applied physics and chemistry. With significant media attention focused on nanoscience and nanotechnology in recent years, materials science is becoming more widely known as a specific and unique field of science and engineering. As a result, it has been propelled to the forefront at many universities.

Metallurgy is a domain of materials science that studies the physical and chemical behavior of metallic elements, their intermetallic compounds, and their mixtures, which are called alloys. It is also the technology of metals: the way in which science is applied to their practical use. Metallurgy is distinguished from the craft of metalworking.

APCCMME 2013 serves as good platforms for academics, researchers, and engineers to meet and exchange innovative ideas and information on all aspects of Chemical, Material and Metallurgical Engineering. The selected, peer reviewed paper from APCCMME 2013 focus on three topics: (1) Chemical Engineering and Technology, (2) Material Science and Engineering, and (3) Metallurgical and Mining Engineering. Among them, the representative papers include "High

Performance of the CFBC Pilot Plant with CO₂ Chemical Absorption by Optimizing the Absorber Parameters” (Cristian DINCA, Adrian BADEA and Horia NECULA), “Tunable Reflectarray Resonant Elements based on Non-linear Liquid Crystal Materials” (M. Y. Ismail and M. HashimDahri), “Effect of Ti on the Microstructures and Toughness of TMCP-600 Steel Weld Metals” (Jin Hyun Koh and Bok Su Jang),etc.

We hope that APCCMME2013 will be successful and enjoyable to all participants. We look forward to seeing all of you next year at the APCCMME2013.

Wen Jin

Committee

Keynote Speaker and Honorary Chairman

Jun Wang, The Chinese University of Hong Kong, Hong Kong

Gerald Schaefer, Loughborough University, UK

Chin-Chen Chang, Feng Chia University, Taiwan

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Min Wu, Nanchang University, China

Wei Lee, Asia Pacific Human- Computer Interaction Research Center, Hong Kong

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Khine Soe Thaung, Maldives College of Higher Education, Maldives

Biswanath Vokkarane, Society on Social Implications of Technology and Engineering, Maldives