Preface

2013 International Conference on Materials Science and Chemical Engineering (MSCE 2013) will be held on February 20-21, 2013, Singapore. MSCE 2013 will be the most comprehensive Conference focused on the various aspects of advances in Materials Science and Chemical Engineering. Our Conference provides a chance for academic and industry professionals to discuss recent progress in the area of Materials Science and Chemical Engineering.

Material is anything made of matter, constituted of one or more substances. Wood, cement, hydrogen, air and water are all examples of materials. Sometimes the term "material" is used more narrowly to refer to substances or components with certain physical properties that are used as inputs to production or manufacturing. In this sense, materials are the parts required to make something else, from buildings and art to stars and computers.

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").

Chemistry, a branch of physical science, is the study of the composition, properties and behavior of matter. Chemistry is concerned with atoms and their interactions with other atoms, and particularly with the properties of chemical bonds. Chemistry is also concerned with the interactions between atoms (or groups of atoms) and various forms of energy (e.g. photochemical reactions, changes in phases of matter, separation of mixtures, properties of polymers, etc.).

Chemistry is sometimes called "the central science" because it connects physics with other natural sciences such as geology and biology. Chemistry is a branch of physical science but distinct from physics.

The etymology of the word chemistry has been much disputed. The genesis of chemistry can be traced to certain practices, known as alchemy, which had been practiced for several millennia in various parts of the world, particularly the Middle East.

On behalf of the organizing committee, O would like to extend my thanks to all the members who served in the International Advisory Board and the Scientific Committee. Their suggestions impressive lectures and enlightening discussions have been critically important for the success of the conference.

Jin Yun and Dehuai Zeng

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