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EDITORIAL

Preface

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Transport Phenomena is ubiquitous to many activities relating to thermodynamics, fluid mechanics, biological and materials sciences, as well as space technology. For scientific progress in new areas, interdisciplinary research is now necessary to take on the challenges of diverse scientific problems. The vast base of knowledge that encompasses such activities has further necessitated that we share our individual expertise across traditional scientific boundaries, and initiate projects based on our collective knowledge and experience. With the broad goal of furthering such scientific research, we are continuing with this series of publications where we shall dedicate our efforts to jointly contribute ideas for healthy new research programs.

In order to tackle the challenges of interdisciplinary research in Transport Phenomena, we require active interaction amongst scientists together with publications where researchers with a wide variety of backgrounds and expertise may identify current issues and propagate new ideas. Besides having interaction between individuals with diverse scientific backgrounds, we need the willingness to experiment with new and unorthodox ideas, together with the adaptive ability to handle new types of problems. We believe that recognition of the new challenges through interdisciplinary activity and pursuit of ideas across traditional disciplines would provide strength to research in Transport Phenomena. This subject matter continues to be fundamentally important and encompasses a large range of disciplines where there are wide-open scientific challenges towards which we may be able to contribute. Nevertheless, progress in dealing with such challenges requires the commitment of dedicated individuals willing to interact with each other, along with encouragement towards the establishment of new and scientifically revolutionary ideas. The future strength of science indeed lies in our willingness to adapt to these new challenges through scientific interdependence as well as the promotion of interdisciplinary activity. Undoubtedly, the success of future scientific programs depends on our ability to accommodate the challenging nature of interdisciplinary work, and to draw strength of our collective expertise across the various disciplines. The present publication is indeed designed to provide for the free flow of ideas and the stimulation of provocative questions that may very well lead to a better understanding of the scientific principles that apply to cross-disciplinary research.

While we recognize the basic similarities of various types of Transport Phenomena, we are in need for scientific interaction and the sharing of expertise to identify areas to which our understanding can be broadened to apply across disciplines. Besides maintaining this theme as a common thread, we need to provide the scientific community with an avenue for dissemination of their research results, and we are indeed fortunate to have been able to accomplish this with the current publication. We are grateful to all of the participants who have expended a great deal of time and effort in putting together high-quality scientific papers that span areas such as biotransport phenomena, surfactants

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and interfacial phenomena, materials research, drops and bubbles, as well as traditional heat transfer.

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