

Preface

Engineering systems and materials do experience heating or cooling of some kind during operation. Modelling and theoretical analysis of heat transfer problems will enhance functional success of the materials and enable new product development in engineering. The special issue on “Engineering Fluid Flows and Heat Transfer Analysis” of the journal “Diffusion Foundations” presents a number of novel theoretical analysis of various engineering heat transfer problems. Topics covered in this special issue include: reactive fluid flow, magnetohydrodynamics, Newtonian and non-Newtonian fluid flow, natural convection, forced convection, mixed convection, porous media flow and thermal radiation absorption effects.

The pertinent results presented have a wide range of applications in area of materials development, thermal storage, biomedical, solar heating, nuclear system cooling, micromixing technologies, metallurgical process, ferrofluid lubrication, silicon wafer process, cooling of electrical and electronics components, product management, power production, pollution control and safety assessment.

It is anticipated that this special issue will stimulate and benefit eclectic audience of academics, researchers and engineers from numerous fields of human endeavours.

We are grateful to all participants for their scholastic contribution toward the success of this special issue. Our appreciation also goes to all the independent reviewers for their constructive comments and the authors for their excellent work.

Dr. Laidoudi Housseem and Prof. Oluwole Daniel Makinde

Editors