

Preface

Nonlinear heat transfer in fluid flow and solids do occur in various engineering and industrial processes. Finding effective solutions to this complex phenomenon has become an increasingly important part of new product development. The special issue on “Advances in Nonlinear Heat Transfer in Fluids and Solids” of the journal “Diffusion Foundations” present a number of novel computational modelling of various nonlinear heat transfer in solids and fluid flow problems. Reported work in this special issue cover solids thermal stability, reactive fluid flow, nanofluids dynamics, 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, frozen ground thawing, cooling of electrical and electronics components, product management, power production, pollution control and safety assessment.

We hope that this special issue will inspire and benefit eclectic audience of academics, researchers and engineers from numerous fields of human endeavours.

We are indebted to all participants for their tremendous contribution toward the success of this special issue. Our gratitude goes to all the reviewers for their constructive comments and the authors for their excellent work.

Professor Oluwole Daniel Makinde
Editor