Foreword

Special issue in honor of K.R. Rajagopal
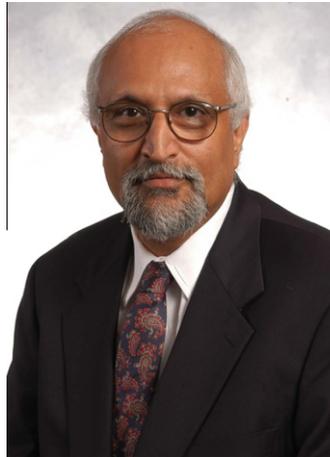
Continuum Mechanics deals with the physical properties of all kinds of materials, be they solids, fluids, or gases. In this mathematical theory, the difference between states of matter is only a question of constitutive equations.

In a not-so-distant past, scientists engaged in continuum mechanics were interested in any kind of macroscopic substance. A perfect example of these *savants* is Claude-Louis Navier [1785–1836], who formulated the general theory of linear elasticity and what is now known as the Navier–Stokes equations of fluid mechanics. Nowadays the situation is completely different. The hyper-specialization of knowledge has produced a generation of researchers who concentrate on the small courtyard of a subject. It is now usual to know "everything" about a special material, for a special class of deformations, for a special kind of problems. Of course, *exceptio probat regulam in casibus non exceptis*, and among the fellows currently engaged in research in Continuum Mechanics, K.R. Rajagopal is a notable exception to this state of affairs.

Professor Rajagopal is a *savant moderne* not only for his culture and for his skill, but also for his aptitude to consider solid mechanics and fluid mechanics as the two sides of the same coin. This is one of the peculiarity of all his research in Mechanics, not to mention all his eminent accomplishments in several other fields such as Mathematics, Philosophy, Applied Dynamical Systems and many more.

This special issue of IJES is the Festschrift celebrating the 60th birthday of K.R. Rajagopal. It was clearly a challenge to find an outlet capable of honoring a Savant with so many interests. First, we encountered a space problem, because we ended up receiving more than 60 submissions for our special volume. Second, the range of topics reflecting the interests of Rajagopal is so wide that it is was hard to find a journal able to cover all this spectrum. Thankfully, all the accepted contributions could fit within the scope of this Journal. For these reasons we have express our deepest thanks and gratitude to all the Elsevier staff which assisted us in managing what seemed to be an endless flow of manuscripts, referee reports, and revisions. We also have to thank Mark Kachanov, Editor-in-Chief of the International Journal of Engineering Science, for allowing us to host this special issue.

We are most grateful to Alan Wineman for writing the biographical sketch and of course to all the contributors and reviewers for their patience and efficiency with meeting the requirements of a rigorous and time-constrained review process. We are proud to have put together such a large collection of papers of excellent quality and variety in the field

of engineering science. We believe that this volume offers a unique and wonderful glimpse in this classical but lively field of research.

Our hope is that this Festschrift will be considered by the Mechanics community to be at the level of its guest of honor.

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