
Preface

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The International Journal of Materials and Structural Integrity is dedicated to providing a medium of communication for multidisciplinary approaches, either empirical or theoretical, to the study of materials and structural integrity. Microelectronics devices represents structures that are built and function with the help of broad cross disciplinary knowledge of mechanical, electrical, and material science and engineering. Reliability of microelectronic devices play a crucial role in many instances such as medical, aerospace, military and even automotive applications. With the advancement of new technologies, materials, and processes, this industry is facing new challenges in every new generation of electronic devices, making it essential to invest on the reliability aspect of these devices continuously and progressively. Some of the challenges that have not been fully addressed in previous researches and in my opinion are important issues are including size effect into material properties and modeling, developing right constitutive models and equations for smaller scale, testing and characterisation and damage evolution of these materials.

The driving force for this special issue was lack of a specific journal or conference that addresses the issues aforementioned. This special issue is committed to reflect part of the broad research that is conducted in this area that is investigating damage in these devices and materials due to different factors such as mechanical, thermal, electrical, and even radiation. This special issue is a fully refereed volume and is committed to highest scientific standards of the community and hopefully will provide some insights about the subjects that are covered.