Special Issue

Functionally Graded Materials: Developments and Applications

Message from the Guest Editor

Functionally graded materials constitute an advanced type of composite that emerged from the need to design materials that could withstand the severely high temperature conditions that occur in some engineering applications. This innovative design aims to minimize the occurrence of thermal residual stresses and ultimately to avoid thermal shock cracking.

These composites are conceptually conceived as a combination of two or more material constituent phases, whose mixture may vary in a continuous manner in the three-dimensional space. This mixture may also account for the existence of porosities, whether or not this is a desirable specificity, within a real application.

Due to the continuously varying composition characteristics of these materials and to the resulting capability to tune material properties in a spatial basis, they can provide different functional characteristics in differentiated regions of a structure, according to specific performance needs.

This Special Issue aims to serve as a vehicle of dissemination of recent research in the wide area of functionally graded materials, welcoming multiple perspectives related to this topic.

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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