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TMS 2018
147th Annual Meeting & Exhibition



MARCH 11 – 15, 2018
PHOENIX, ARIZONA

SUBMIT AN ABSTRACT TO:

NANOSTRUCTURED MATERIALS

SURFACE INTERACTIONS IN MATERIALS

Most of the processes of materials engineering involve surfaces and interfaces which determine the evolution of the process/materials characteristics, and, in many cases, define the end properties of the materials. Understanding and developing strategies to control surface interaction have been the subject of research for centuries. In non-biological materials, some of the well known phenomena where surface/interfaces are important include phase transformations, ripening, repulsion/attraction of particles by liquid or solid interfaces, lubrication, friction, wear, corrosion, and many others. In biology and human health areas, surface interactions occur in processes such as phagocytosis, adsorption of chemicals by cells and microorganisms, cell multiplication (cell fission, mitosis, and meiosis), which are part of natural processes or induced that could be beneficial or detrimental. These interface interactions may be part of different stages of more complex ones, such as osseointegration, hemocompatibility and other tissue compatibility, which are key aspects for implantation of devices in human and tissue engineering. In addition, nanotechnology presents new challenges for the comprehension of surface interactions due to high surface area to bulk ratio. Moreover, nanostructured materials in particulate, rod, plate, or nanotube configurations adsorb and adhere chemical compounds, which can give improved or specific properties for the development of new technology.

This symposium seeks to capture scientific advancements in understanding surface/interface phenomenon, controlling surface/interface characteristics in introducing novel properties, and technologies to characterize interfaces. Interface phenomenon in nanostructured materials, biomaterials, metals and alloys, advanced coatings, composites, wear and corrosion, environmental degradation, and energy-generating systems are of particular interest.

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ABSTRACT DEADLINE IS JULY 1, 2017. SUBMIT ONLINE AT www.programmaster.org/TMS2018.

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