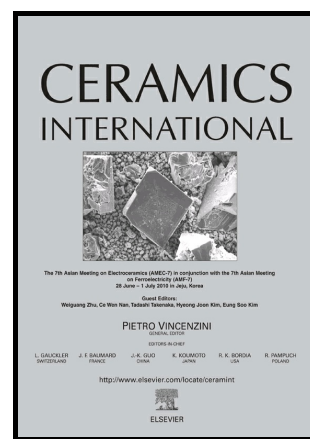


Bioactive glasses – when glass science and technology meet regenerative medicine

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[†] Dedicated to the cherished memory of Giuseppe Baino.

Abstract

Over the millennia, men have continuously potentiated their abilities through developing and applying new materials and technologies. A number of metallic, ceramic and polymeric implants have been experimented as “spare parts” to restore lost functions or organs in the body. Till the 1960s, the selection of potentially suitable prosthetic materials was based on the criterion of maximum biological and biochemical inertness in contact with body fluids. Fifty years ago, the invention of the first bioactive glass, which was able to create a strong bond with living bone, radically changed this concept and paved the way for the advent of the modern era of biomaterials science. Since then, a number of bioactive glass-based products, such as small solid blocks, fine particles, granules, porous scaffolds and injectable putties,

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