Special Issue

Supercritical Processing and Applications in Materials

Message from the Guest Editor

Supercritical fluid (SCF)-based techniques are attracting growing interest among researchers and industry as a green alternative to traditional processes, thanks to the properties of SCFs such as liquid-like densities and gas-like transport properties that can be tuned in varying process operative conditions (i.e., pressure and temperature). In particular, carbon dioxide (CO2) is the most frequently used supercritical fluid thanks to its mild critical temperature (31.1 °C), low critical pressure (73.8 bar), and inertness. Depending on the role played by supercritical CO2, different processes have been successfully used for the production of various porous materials (like aerogels, membranes, and foams), micro- and nanoparticles, co-precipitates, liposomes, and so on. The aim of this Special Issue is to collect research and review papers on different supercritical CO2 applications in the production of advanced materials at enhanced properties, to be used in the pharmaceutical, biomedical, food, and energy fields.

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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