

## Special Issue - International Journal of Applied Ceramic Technology

### Ceramics for the Circular Economy

The continuous growth of the economic system in the so-called developed world, has led to mass-production of short-lived products, over-exploitation of resources and generation of overwhelming amounts of waste and emissions. Current economy model is largely linear (take – make – use – dispose) by design, resulting in avoidable environmental and human health impacts. Three billion new consumers entering the market worldwide in the next 20 or 30 years will put an enormous pressure on our shared resource base if we continue along the linear way. Under ‘business as usual’, annual global material extraction has been projected to reach 183 billion tonnes by 2050, more than double the amount in 2015.

A new paradigm emerges in this worrying environment: *Circular Economy*.

Creating a Circular Economy requires fundamental changes throughout the value chain, from product design and technology to new business models, new ways of preserving natural resources and *turning waste into resources*, new modes of consumer behaviour, new norms and practices, education, and finance. Ceramics are not alien to this change of paradigm. The past years have witnessed a growing concern of the *ceramic industry* for achieving a higher degree of sustainability. Environmental issues have become hot spots in many *industrial ceramic processes and the search of alternative raw materials is at the moment one of the drivers for most ceramic companies*.

This Special Issue addresses several *leading areas related to ceramics and composites*, including, but not limited to, *waste management, minimization and reuse, industrial symbiosis, sharing and/or optimization of resources, life-cycle assessment, by-products exchange, greenhouse emissions reduction, renewable energy sources, testing and characterization, and regulatory aspects*.

This Special Issue aims at *building a bridge among various stakeholders involved in the ceramics community and concerned with circular economy in its various approaches, including researchers from academia, industry, and government*. This valuable cross-fertilization is very much welcome to cope with the needs of a world where sustainable growth has become a must and resources need to be used in an intelligent and reasonable way.

It is therefore our pleasure to invite researchers and colleagues from academia and industry to submit a manuscript for this Special Issue here:

<https://mc.manuscriptcentral.com/act>

Full-length research articles and review papers are welcome.

Cite *Special Issue* in your cover letter

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