

Making Materials with Microwaves: The Art of the Possible

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ABSTRACT

Most of us know how to make a cup of tea in a microwave oven. In his lecture Professor Vaidhyanathan explores how to make the ceramic cup itself and many other advanced functional materials using microwaves through a powder-to-product excursion. The various developments along the way will demonstrate how a wide variety of technologically important functional and smart ceramic/metallic materials can be manufactured using energy efficient, eco-friendly, field-assisted processing methods. These include advanced materials for healthcare, energy, electronic and defence applications. Properly utilized, this unique platform technology can lead to greater micro/nano structural control, improved product performance and significant reduction in both manufacturing costs and CO₂ emission.