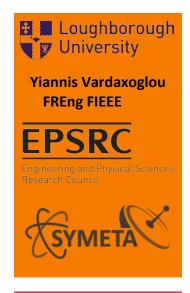
Meta-Atoms for 3D Printing Metamaterials

In this talk we will introduce the concept and uses of Meta-Atoms (MTAs) in Electromagnetic metamaterials. MTAs take the form of metallic or dielectric meso scale cuboid inclusions which could be 3D-printed in multilayered metamaterials with different periodicities. Potentially these meta-atoms could be varied in constitution and geometry to augment a variety of artificial magnetodielectric properties. The effect of their periodicity on the effective EM properties (constitutive parameters) is examined by placing the 3D-printed samples in a waveguide or on a resonator. Some of these structures have been applied in engineering applications such as 3D antennas, filters and microwave lenses, prototypes of which will be shown.

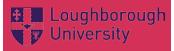
Yiannis Vardaxoglou's current research focuses primarily on metamaterial structures, additive manufacturing (3D printing) RF/micro/mm wave engineering and Frequency Selective Surfaces (FSS). He has led a team of the Symeta research centre (www.symeta.co.uk) funded by an EPSRC Grand Challenge award, researching in a wide-ranging metamaterial topics applicable to cutting-edge communications wireless technology. Symeta collaborates with many internationally leading companies universities. Yiannis and has authored few hundred publications (scholar.google.com), several book chapters and a seminal book on FSS.



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EPSRC Grand Challenge: Synthesizing 3D Metamaterials for RF, microwave and THz applications

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