Editorial

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Biographical notes: Filipe Teixeira-Dias received his MSc and PhD in Mechanical Engineering from the University of Coimbra in 1995 and 2000, respectively, where he lectured between 1993 and 1997. Since then, he is an Associate Professor in Mechanical Engineering at the University of Aveiro and Head of GRIDS-DAPS – Division of Armour & Protection Systems. Presently he is President of the Light-Weight Armour for Defence & Security (LWAG). He has over 15 years of teaching and research experience in composite and cellular materials, numerical simulation and finite element technology. He is a Reviewer and Scientific Advisor for many international journals and conferences.

José Luis Pérez Castellanos received his PhD as 'Ingeniero de Caminos, Canales y Puertos' by the Polytechnical University of Madrid. He is licensed in Mathematical Sciences by the University Complutense of Madrid. Presently, he is a Professor Titular at the Department of Continuum Mechanics and Structural Analysis of the University Carlos III of Madrid. He coordinated seven R&D projects and collaborated in many other (one international). He published over 20 papers in international journals and 18 communications to international congresses. He has three patents in operation, supervised four PhD theses and is on the final supervising stage of two more.

It is well known that cellular materials have unique mechanical and physical properties, such as their specific strength and stiffness. Their constitutive behaviour also makes cellular materials indicated for energy absorption applications, such as, for example, crashworthiness, impact, ballistics, blast-wave, heat exchange, etc. These characteristics, among others, make cellular materials highly adapted to the development of multi-functional, light-weight and cost-effective applications in areas such as structural engineering, aerospace, automotive and defence. The use of these materials has increased in various areas of science and technology due to their special mechanical and physical properties. As a result of their properties and potential applications, there is a high

demand for cellular materials and an evident need for a deeper understanding of their behaviour.

This special issue of the *International Journal of Materials Engineering Innovation* (*IJMatEI*) publishes a set of six high-quality research articles related to the characterisation of the dynamic and impact behaviour of cellular materials and its applications. These papers concern the dynamic behaviour of aluminium foam core sandwich structures and two studies on the dynamic and temperature behaviour of polyurethane foams. Both experimental and numerical approaches are presented, namely one computational study on the behaviour of closed-cell porous metals. Two other research studies are published on the impact and dynamic characterisation of the behaviour of a natural cellular material: cork.

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