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Marine fibre-reinforced plastics composites

Summerscales, John

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Symposium on High-Tech Collaborative Innovation

General Lecture Information

Name: John Summerscales

Title: Prof.

Organization: University of Plymouth

Job Position: Professor of Composites Engineering

Lecture title: **Marine fibre-reinforced plastics composites**

Lecture Summary/Abstract (within one page including photo and graphs): Fibre-reinforced plastics composites are widely used in the marine industry because they can survive in the wet environment far longer than traditional engineering materials (wood, aluminium, steel) with minimal maintenance. Integrated structures may have dimensions in excess of 100m, but thermosetting resin materials are not easily recycled. The talk will consider some of the larger structures that already exist, then discuss a number of environmental considerations that need to be understood for the benefit of future generations.

Photo attached separately

Biography (300 -500 words)

John Summerscales is currently Professor of Composites Engineering at the University of Plymouth (UK). He is a Chartered Engineer, a Chartered Environmentalist and a Chartered Scientist. His professional affiliations are Fellow of the Institute of Materials, Minerals and Mining (IOM3), Fellow of the British Institute of Non-Destructive Testing, Fellow of the International Association of Quality Practitioners (IAQP) and he is a Professional Member of the Society for the Advancement of Materials and Process Engineering (SAMPE). He has been a member of the Engineering and Physical Sciences Research Council (EPSRC) Peer Review College (and its predecessors) since 1993 and was Chairman of the joint EPSRC Functional/Structural Materials Panel on Materials Networks.

Dr Summerscales has worked in the field of fibre-reinforced composite materials since 1977. From 1982 to 1987, he worked for the Ministry of Defence (Navy) sonar dome programme. He then joined the new Advanced Composites Manufacturing Centre at the University of Plymouth to provide continuing professional development courses for the composites manufacturing industry. In response to a need expressed by industry he was instrumental in the development of the professionally accredited BEng/MEng Mechanical Engineering with Composites honours degree course (unique at undergraduate level in Europe), for which he is still course pathway tutor.

The major themes of his research have been composites manufacturing (especially resin transfer and resin infusion processes), microstructural characterization, mechanical / non-destructive testing and sustainability issues. External funding for his research projects has come from the EU Framework Programmes, Engineering and Physical Sciences Research Council, Technology Strategy Board/Innovate UK and Knowledge Transfer Partnerships.

He edited the journal Composites Manufacturing (1991-95) and books on Non-Destructive Testing of Fibre-Reinforced Plastics Composites (Elsevier 1987/90), Microstructural Characterisation of Fibre Reinforced Composites (Woodhead 1998). He has co-edited books on Marine Applications of Advanced Fibre-Reinforced Composites (Woodhead, 2015) and Marine Composites: Design and Performance (Woodhead, 2018). He has published 100 book chapters, reviews or journal papers, and >140 conference papers.