



Prof. Dr. Keith Attenborough

Title: Emeritus Professor

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Speaker Biography:

Keith Attenborough, is Emeritus Professor of Acoustics at the Open University. At the University of Hull, he was Head of Engineering between July 1999 and April 2002 and Research Professor in Engineering between 2002 and 2007. His research has resulted in 25 Ph.D. theses, 151 papers in refereed journals and over 180 international conference presentations. Since 2007 he has been Education Manager for the Institute of Acoustics UK responsible for the delivery of training and CPD courses in Acoustics and Noise Control. He has many publications in the field of Acoustics.

HONOURS AND AWARDS

1996 Rayleigh Medal of the Institute of Acoustics (UK)

2011 Honorary Fellowship of the Institute of Acoustics

2012 Silver Medal (Noise) of the Acoustical Society of America

2013 Médaille Étrangère of the French Acoustical Society

2022 The inaugural Dr Bob Peters Education award from the Institute of Acoustics (UK)

Presentation Title: **Sound Absorbers from Natural Wastes**

Title:

Abstract:

A common way of reducing reverberant sound in industrial spaces is by adding sound absorption. Since the environmental impact of the production and disposal of common fibre- and foam-based materials is high, there is increasing interest in 'greener' alternatives such as porous materials manufactured from wastes. Measurements of the normal incidence sound absorption coefficient of fibrous samples made from corn husk, sugar cane, kenaf, and luffa, and granular samples made from wood chips, wood cement, fruit stones and nut shells will be compared alongside data for their bulk properties including porosity, flow resistivity, and tortuosity that determine sound absorption. The extent to which the acoustical performance of such materials can be predicted from these bulk properties will be explored. Conclusions are offered about the suitability of such materials for use as sound absorbers in buildings and elsewhere.