B·DEBATE International Center for Scientific Debate BARCELONA

ISGlobal Barcelona Institute for Global Health

ELIZABETH WELLINGTON

SPEAKER AT:

THE GLOBAL THREAT OF ANTIMICROBIAL RESISTANCE

SCIENCE FOR INTERVENTION

November, 5th, 6th and 7th , 2013, Barcelona

Elizabeth Wellington, Professor at School of Life Sciences, University of Warwick, Coventry, United Kingdom

Professor Liz Wellington is an active member of the Environment theme within the School of Life Sciences at the University of Warwick. She holds a personal chair and, with her research group, is involved in the study of bacteria in soil and survival of pathogenic bacteria in the environment. Research work focuses on understanding the ecological roles for specific bacterial activities including antibiotic production, resistance and exoenzyme production and analysing the impact of lateral gene transfer. Her group was one of the first to report the molecular detection of antibiotic biosynthesis in soil and co-evolution of resistance in non-producers. Subsequent work indicated that waste disposal practices further disseminate antibiotic resistance gene into the environment. Studying the fate of introduced bacteria in the environment has focused on the survival of pathogens such as *Salmonella* species, MRSA, *Dichelobacter nodosus* and slow growing mycobacteria including the *M. tuberculosis* complex. Recent research produced the first non-invasive methods for monitoring shedding in wild life and cattle infected with bTB in order to elucidate the impact of control measures on transmission. Her research interests are focused on antibiotic resistance dissemination, aim to identify reservoirs of drug resistance in the environment, defining environmental reservoirs of pathogenic bacteria in soil and water, biodegradation of recalcitrant compounds and biopolymers in the environment, microbial community analysis and specific expertise in the development of environmental proteomics for extraction and analysis of enzymes from soils and wastes, and in the processing of biopolymers and metagenomics and analyses of microbial gene pools in soil; discovery of novel antibiotic gene clusters.

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