**DESCRIPTION**

By integrating knowledge from pharmacology, microbiology, molecular medicine, and engineering, researchers from Europe, the U.S. and Asia cover a broad spectrum of current and potential antimicrobial medications and treatments.

The result is a comprehensive survey ranging from small-molecule antibiotics to antimicrobial peptides and their engineered mimetics, from enzymes to nucleic acid therapeutics, from metallic nanoparticles to photo- and sonosensitizers and to phage therapy. In each case, the therapeutic approaches are compared in terms of their mechanisms, likelihood to induce resistance, and their efficiency in a global healthcare context.

Unrivalled knowledge for professionals in fundamental research, pharmaceutical development and clinical practice.

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**ABOUT THE AUTHOR**

**Professor David Andrew Phoenix** studied Biochemistry at degree and doctoral level at Liverpool University which in 2009 awarded him a Doctor of Science for his impact on the field. In 2000 he was appointed Professor of Biochemistry, at the University of Central Lancashire (UCLan) and has held visiting chairs in Canada and Russia. He has published over 150 papers as well as a number of edited collections and monographs. He is a Fellow of the Royal Society of Chemistry, The Society of Biology, The Institute of Mathematics and Its Applications and the Royal Society of Medicine. Since 2008 he has been the Deputy Vice Chancellor of UCLan and also chairs a research institute in Shenzhen focused on nanotechnology and biomedical engineering. He
was made an Officer of the Most Excellent Order of the British Empire in 2010 for services to Science and Higher Education and recognized as an Academician by the Academy of Social Sciences in 2012.

Dr. Frederick Harris studied at UCLan, graduating with a Bachelor of Science in Biochemistry and Microbiology in 1993 before gaining his Doctorate for work on the penicillin-binding proteins of Escherichia coli in 1998. Subsequently, he has undertaken research at Utrecht University and the Leibniz-Centre for Medicine and Biosciences, Germany. In 2000, Frederick started as a Research Fellow at UCLan and now has more than 75 publications to his name, which primarily focus on antimicrobial and anticancer peptides.

Dr. Sarah Rachel Dennison graduated from the University of Wales, Bangor with a Bachelor of Science in Environmental Biology in 1999. Subsequently, she undertook postgraduate research in Biochemistry / Biophysics, which led to a doctorate in 2004. Currently, Sarah is a Research Associate in the School of Pharmacy and Biomedical Sciences at UCLan where she is investigating the role of amphiphilicity in the function of antimicrobial peptides using a number of biophysical techniques.

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