

3rd AC21 International Research Festival

From Genes to Patients: New Perspectives on Personalised Medicines

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Poster Abstracts:

15. Taking the fight to the superbugs – searching for new antibiotics

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Drug-resistant bacterial diseases are increasingly becoming one of the major headaches of modern medicine and there is a strong need for new classes of antibiotics to be developed. We have been developing a novel type of drug which avoids all current common pathways of antibiotic resistance. It relies on supramolecular synthetic chemistry to create tetracationic helicates of the exact charge and stericity to bind in the major groove of DNA and promote supercoiling, subsequently leading to cell death.

The work presented charts some of the recent developments using *B. subtilis*, a Gram-positive model organism, to examine the biological interactions of these bacteria with our metallomolecule. Cytotoxicity and initial membrane transport studies are included in this poster which also outlines potential future progress in this exciting field of research.