

UK and Indian researchers unite to fight global tuberculosis epidemic

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University of Birmingham academics from the School of Biosciences are joining forces with peers from the Indian Institute of Science, Bangalore (IISc) in a new research partnership focused on tackling tuberculosis (TB).

Combining the complementary strengths of both institutions in this area, the research will take a novel approach in studying the biology of *Mycobacterium tuberculosis*, the bacterium that causes TB, with the aim of developing new treatments and diagnostics.

TB remains at epidemic levels worldwide and rates are especially high in the Indian subcontinent despite recent advances in the understanding of the biology of the causative agent. Until recently, techniques used to combat TB largely remained the same as those used in the last century including the vaccine, choice of therapeutic drugs and diagnosis methods.

The researchers plan to address four key areas of TB biology, where there has been limited previous research, to gain a greater understanding of the disease. These include:

- Understanding the interplay between the central metabolism of the TB bacterium and cell wall composition
- Deciphering how the 'packaging' of the DNA of the TB bacillus by special proteins affects the expression of its genes
- Developing new technologies to study how the bacterium senses its environment
- Evaluation of a diagnostic tool based on spectroscopic detection of a lipid biomarker

Dr Apoorva Bhatt, Lecturer in Molecular Microbiology, at the University of Birmingham, said:

"The funding provides an excellent opportunity to 'jump start' collaborative research on a disease of global significance that taps into the research strengths of each institution."

The project is funded by the UK-India Education and Research Initiative (UKIERI) as part of the Innovation Partnerships strand. This initiative aims to provide opportunities for UK and Indian universities and institutions to collaborate on thematic partnerships to enhance the innovation capacity of both India and the UK. It promotes partnerships between higher education institutions which focus on innovation and new areas of development in research, in areas relevant to both countries.

Earlier this year, the University of Birmingham signed a Memorandum of Understanding (MoU) with the Indian Institute of Science (IISc) in Bangalore as a result of developing academic engagement between both institutions.

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