

# **Dr Jonathan A. G. Cox**

**Lecturer in Microbiology at Aston University**

Birmingham, , GB

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## **Biography**

Dr Jonathan A. G. Cox's research interests surround the discovery of new antibiotics and identifying the exact mechanism by which those antibiotics kill bacteria. Finding new 'mechanisms of action' reveals new drug targets that can be exploited in the battle against antimicrobial resistance (AMR). AMR accounts for around 700,000 deaths per annum globally and that number is predicted to rise to 10 million by 2050. The current economic burden of AMR is estimated to be at least '1.5 billion per year in the EU. New antibiotics and an improved understanding of how to use them will help to slow the progression of AMR, saving countless lives in the future. In his current role, Jonathan leads the Mycobacterial Research Group at Aston University. His group consists of three PhD students and one post-doctoral researcher, along with a number of master's students and undergraduate students who decide to study with them. They are a multidisciplinary team with a diverse skill-set, spanning microbiology, biochemistry, molecular genetics, structural biology and drug discovery. The Mycobacterial Research Group's main focus is to study the physiology of various pathogenic mycobacteria (such as Mycobacterium abscessus, Mycobacterium tuberculosis and Mycobacterium bovis) and to discover new ways to treat infections. By using the physiology to inform antibiotic drug discovery, they can develop new treatment regimens that are able to overcome factors contributing to antibiotic resistance in these highly antibiotic-tolerant bacteria. The Mycobacterial Research Group collaborates with several other research groups around the UK, including The University of Bradford, University of Hertfordshire and University of Plymouth, as well as clinicians at Birmingham Children's Hospital. Jonathan was recently interviewed by the Microbiology Society about his research. Jonathan also teaches at Aston and currently leads teaching for first year microbiology on their Biomedical Science, Biology and Biochemistry courses, as well as contributing to teaching across other parts of their program. Jonathan currently serves as Biomedical Science Top Up Modules Course Director. Jonathan regularly engages with the press to comment on news stories and issues related to microbiology, infectious diseases and antibiotic resistance. He has experience of both written and broadcast media.

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## **Areas of Expertise**

Health Sciences, Biochemistry, Antibiotics, Antimicrobial Resistance, Micro-Organisms

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## **Affiliations**

Higher Education Academy (SFHEA) : Senior Fellow, Institute of Biomedical Science (FIBMS) : Fellow, Acid Fast Club, UK : Member, Royal Society of Biology (MRSB) : Member, Biochemical Society : Member, Microbiology Society : Member, British Society for Antimicrobial Chemotherapy (BSAC) : Member

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## **Education**

**University of Birmingham**

PhD Molecular Microbiology and Drug Discovery

**University of Birmingham**

BSc Medical Biochemistry

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