University of Birmingham

Professor Robin May MA(Oxon), PhD

Lister Fellow & Professor of Infectious Disease

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About

I am Professor of Infectious Disease and Lister Fellow in the School of Biosciences. My research centres on human infectious diseases, with a particular focus on the molecular basis of host-pathogen interactions.

Qualifications

- MA(Oxon), Biological Sciences
- PhD (Birmingham), Cell Biology

Biography

My PhD research, on the regulation of the actin cytoskeleton, was undertaken at the Laboratory for Molecular Cell Biology, UCL, and here at the University of Birmingham, with Professor Laura Machesky (now at the Beatson Institute, Glasgow).

In 2001 I was awarded a Human Frontier Science Program (HFSP) fellowship and moved to the Netherlands to work with Professor Ronald Plasterk (now a member of the Dutch Parliament) on the mechanism of RNA interference in *C. elegans*.

In 2005 I was awarded an RCUK Fellowship to return to Birmingham as an independent Principal Investigator. I am now Professor in Infectious Disease and, in 2010, was appointed as a Lister Prize Research Fellow.

Teaching

I teach eukaryotic microbiology on the first year “Microbiology and Infectious Disease” course (BIO153) and aspects of host-pathogen interactions on the final year “Molecular and Cellular Immunology” (BIO388), “Adaptation to Changing Environments” (BIO389) and "Human Evolution" (BIO380) courses. I am also a tutor for undergraduate Human Biologists.

Postgraduate supervision

We are always interested in hearing from potential PhD students who may wish to join the lab. We typically take on one PhD student each year to join their project of choice. You can find out more about current graduate students in the group here: **www.biosciences-labs.bham.ac.uk/may/People.html (http://www.biosciences-labs.bham.ac.uk/may/People.html)**

For a list of possible PhD projects offered by Professor May, see: **www.findaphd.com/search/customlink.asp?inst=birm-Biol&supersurname=May (http://www.findaphd.com/search/customlink.asp?inst=birm-Biol&supersurname=May)**

Doctoral research

PhD title Regulation of the actin cytoskeleton.

Research

Research Theme within School of Biosciences: Molecular Microbiology

Lab website address: www.biosciences-labs.bham.ac.uk/may/ (http://www.biosciences-labs.bham.ac.uk/may/)

Short research description

My research focuses on the molecular basis of host-pathogen interactions. My group combine high-resolution microscopy with molecular and genetic approaches to probe the events that underlie establishment and spread of infective agents; primarily the fungus *Cryptococcus neoformans*, but also the invasive zygomycete fungi and the bacterial pathogens *Salmonella* Typhimurium (a leading cause of food-poisoning) and *Streptococcus agalactiae* (the leading cause of neonatal meningitis in the developed world).

Full research description

The evolution and molecular basis of host-pathogen interactions

The continual struggle between pathogens and their hosts is a major selective force, resulting in the evolution of ever more complex host-pathogen interactions as both sides attempt to 'win' the conflict. We are interested in the molecular basis of such interactions and in how they have evolved.

To address these questions we combine cellular and whole-organism based approaches to study the interaction between cells of the mammalian immune system (primarily macrophages) and several pathogens. We are particularly interested in understanding how some organisms can survive, replicate and eventually escape from within macrophages.

For more information on our research and the members of our group, please see our lab **website (http://www.biosciences.bham.ac.uk/labs/may/)** .

Listen to my podcast 'Infection' (MP3 - 16.5MB) (/Audio/news/robin-may-infection.mp3) .

Publications

For a full list of recent publications please visit **PubMed.gov (http://www.ncbi.nlm.nih.gov/pubmed?term=May%20RC)**

Selected publications

Head MG, Fitchett JR, Atun R, **May RC.** Systematic analysis of funding awarded for mycology research to institutions in the United Kingdom, 1997-2010. *BMJ Open*, 2014 4: e004129

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Browning DF, Wells TJ, Franca FLS, Johnson MD, Morris FC, Bryant JA, Lund PA, Hobman JL, **May RC**, Webber MA, Henderson IR. Restoration of O antigen biosynthesis radically alters the ability of *Escherichia coli* K-12 to survive lethal environmental stresses. *Mol Micro*. 2013, 87(5): 939-50

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