

## **Prof. Tony Maxwell, Dept Biological Chemistry, John Innes Centre**

Tony Maxwell, who is originally from Birmingham, gained his first degree (B.Sc., 1<sup>st</sup> Class) in Biochemistry from University College London before going on to do a Ph.D. on restriction enzyme enzymology at the University of Bristol with Steve Halford. This was followed by a 4-year postdoc with Marty Gellert (NIH, Bethesda, USA) on DNA gyrase, where he worked on structural and mechanistic aspects of the enzyme. In 1982 he moved back to the UK where he was awarded a 'New Blood' Lectureship at the University of Leicester, and stayed until 2000, becoming a Professor in 1997. During the period 1991-1997 he held a Lister-Jenner Research Fellowship. Work at Leicester involved continued mechanistic and structural studies on gyrase and other DNA topoisomerases, and investigations into drug-targeting aspects of these enzymes.

In 2000 he moved to the John Innes Centre, which is the largest research institute for plant and microbial sciences in Europe, to be Head of the Biological Chemistry Department. His research interests centre around DNA topoisomerases, focussing on their structure, mechanism and interaction, with a particular emphasis on antimicrobial agents; current work also includes analysis of insect microbiomes in relation to antimicrobial resistance.

Notable recent work includes: the discovery of DNA gyrase in *Arabidopsis* (*PNAS* 2004, & *JBC*, 2016), structure of a fluoroquinolone resistance protein from *Mycobacterium tuberculosis* (*Science*, 2005), structures of the GyrA and GyrB proteins by small angle X-ray scattering (*Structure*, 2005 & 2007), development of a high-throughput assay for topoisomerases (*NAR*, 2006), and the crystal structure of simocyclinone bound to gyrase (*Science*, 2009 & *JMB*, 2014). He is co-author (with Andy Bates) of the book 'DNA topology' (*OUP*, 2005).