TOM MENTLAK

I first became interested in Plant Science during my first year at University and now I'm particularly interested in rice blast disease.

First Degree	BA Biological Sciences University of Oxford Graduated June 2007
	MSc Biology (Integrative Bioscience) University of Oxford Awarded MSc 2008
PhD	Sainsbury PhD Studentship Investigating effector function and delivery in the rice blast fungus *Magnaporthe oryzae* University of Exeter Supervisor - Professor Nick Talbot Started October 2008

Summary of Research Project

Magnaporthe oryzae is the causal agent of rice blast disease and is responsible for significant losses in the rice harvest each year. Research to date has focussed almost exclusively on the start of the infection process, such as the formation of the specialised infection structure, the appressorium, which is used to mechanically break through the plant cuticle and initiate disease. Relatively little is known about the early stages of biotrophic invasion within host tissue and hyphal growth within the plant. During biotrophic growth, *M . oryzae* actively secretes effector proteins to downregulate host responses and promote infection. How these effectors are delivered into the host cell and the consequences of their delivery on host cell machinery is still not understood.

My research is focussed on the characterisation of novel effectors and understanding the delivery mechanisms of these effectors into host tissues. I'm also interested in defining the host-pathogen interface during biotrophic growth and understanding the role of effectors in perturbing host cell machinery.