infection that could reveal how the fungus evolves to persist in infection. I am intending to pursue a medical degree after I have completed my PhD, and hope to combine my research with clinical practice.

Gene amplification as a mechanism of microevolution in the subtelomeres of *Cryptococcus neoformans*

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The subtelomeric regions of diverse organisms ranging from protists to fungi undergo a much higher rate of rearrangement than is observed in the rest of the genome. We have investigated whether similar genetic changes occur in the subtelomeres of the fungal human pathogen *Cryptococcus neoformans* to contribute to infection. Comparative bioinformatic analyses of the subtelomeric regions of three sequenced *Cryptococcus* genomes have shown that these genomic features are generally syntenic, although there are genes in the subtelomeres of some isolates that are absent in others. Using molecular techniques we have characterised the differences in one of these regions, the right telomere of chromosome 3, revealing the presence of a gene amplification event in a number of clinical isolates. Involving a gene encoding an arsenite-efflux transporter (ARR3), the 3,177 bp amplicon existed in a tandem array of 1 to 15 copies, and occurs exclusively in strains belonging to *C. neoformans* var. **grubii** subclade VNI A5. Strains bearing the amplification displayed dramatically enhanced resistance to arsenite that correlated with the copy number of the repeat. The origin of this increased resistance was verified as being transport related by functionally complementing an arsenite transporter mutant of *Saccharomyces cerevisiae*. Further supporting this role, *C. neoformans* experimental evolution in the presence of increasing concentrations of arsenite yielded strains with additional ARR3 amplification that accounted for up to ~1% of the genome, conferring resistance to arsenite to concentrations greater than 30 mM.

Beyond identifying fungal isolates that are highly resistant to arsenite, these studies describe the first reported instance of microevolution via gene amplification in *C. neoformans*. Together, these results support the hypothesis that adaption through gene amplification may be an important mechanism that *C. neoformans* employs in response to environmental stresses such as those encountered during infection.

Visiting graduate student scholar infungal systematics and evolution: University of Tennessee

A visiting graduate student scholar is sought to engage in research in fungal systematics and evolution at the University of Tennessee. The research will take place in the laboratory of Dr. Brandon Matheny and is funded by the National Science Foundation award REVSYS: Revision of Australian Inocybaceae: studies in systematics and evolution of ectomycorrhizal Agaricales from the southern hemisphere (DEB0949517). The position includes a six-month stipend and funds for travel. Graduate student applicants from Australia or graduate students involved with research on Australian fungi are particularly encouraged to apply, but applicants from elsewhere will be considered. The time period for support is scheduled between 1 September 2011 and 31 March 2012. Consideration will be given to split the six-month stipend into two to support two visiting graduate students for three months of support. The University of Tennessee provides a stimulating atmosphere in ecology and evolutionary biology due to a mix of internationally known faculty members, numerous junior faculty, and immediate proximity of NIMBioS, the National Institute for Mathematical and Biological Synthesis. Opportunities to sample diverse fungi abound due to the proximity of the Great Smoky Mountains, the Cumberland Plateau, and a variety of habitats in the Tennessee River Valley. Applications should include a CV, a proposed research statement of not more than one page, and a list of two references to contact. Applications should be sent to Dr Brandon Matheny at pmatheny@utk.edu.

Vale Ross Beever (1946–2010)

Dr Ross Beever passed away peacefully on 3 June 2010 after a short battle with bowel cancer. Ross' scientific interests and influences were wide-ranging. His studies on phosphorus uptake in the fungus *Neurospora crassa* led him to co-author a review (1981, *Advances in Botanical Research* **8**, 127–219) of phosphorus uptake, storage and utilisation in fungi. This was a significant synthesis of knowledge at the time, and it stimulated much new research on phosphate utilisation by fungi. Ross' expertise in fungal genetics resulted in numerous publications on the plant pathogen *Botrytis cinerea,* and in him pursuing the question "why fungi like sex?". Ross led the discovery that cabbage tree decline in New Zealand was caused by a phytoplasma, and his careful elimination of other potential causative agents (in the face of public and political opposition) is testament to his tenacity, scientific rigour and strength of character. Ross was passionate about truffle-like fungi. Those who forayed with him were always impressed by how willing he was to share his knowledge about fungi, and indeed to talk on any subject, in a friendly, encouraging way with thoughtful enthusiasm, and his ideas had a strong foundation in his incredibly broad expertise in fungal and plant biology. Ross and Jessica Beever have both played an immeasurable role in nurturing younger generations of scientists, and all of those who have come under their infectious spell of enthusiasm will be sharing the pain of this sad loss with Jessica, to whom we offer our most heartfelt condolences. Ross was farewelled at a service in Auckland on 10 June 2010, where a standing-room-only crowd recognised Ross as a world-famous scientist, and celebrated the close and loving relationships he had as husband to Jessica and as brother, father, grandfather, mentor, colleague or friend to all those with whom he so generously shared his life.

David Orlovich