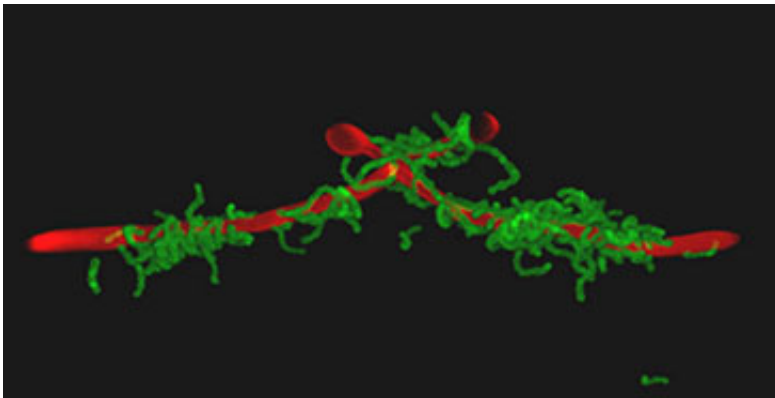


Novel ways by which human fungal infections may be controlled

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Bacteria interacting with fungus

(Phys.org) —New research has found novel factors that affect the ability of fungi to be incorporated into microbial communities within the human body and thus new ways by which fungal infections could be better controlled.

The study, led by Professor Howard Jenkinson and Dr Angela Nobbs in the Oral Microbiology Research Group from the University of Bristol's School of Oral and Dental Sciences, is published in the open access journal *mBio*.

In the human mouth microorganisms form communities known as biofilms, which can stick to teeth, gums, tongue and dentures, and where

the fungus *Candida albicans* can be found.

The research group focused on the process by which *C. albicans* becomes integrated into these communities containing bacteria, such as *Streptococcus*, as this is often the first step in the development of *Candida* infections.

The study found that impairment of early stage addition of mannose sugars to *C. albicans* hyphal filament proteins has a harmful effect on the ability of *C. albicans* to integrate into polymicrobial biofilms.

Howard Jenkinson, Professor of Oral Microbiology in the School of Oral & Dental Sciences, said: "*Candida albicans* is becoming an increasingly serious problem in hospital infections. The fungus is responsible for almost 90 per cent of human [fungal infections](#) and is now the third most common [infection](#) to be acquired in hospitals."

The research was funded by the National Institutes of Health, Bethesda. The work has involved collaborators in the USA (University of Louisville) and at the University of Aberdeen, and extensive confocal microscopy performed at the University of Bristol Wolfson Bioimaging Facility by Dr Mark Jepson and his team.

More information: "O-Mannosylation in *Candida albicans* Enables Development of Interkingdom Biofilm Communities." Lindsay C. Dutton, Angela H. Nobbs, Katy Jepson, Mark A. Jepson, M. Margaret Vickerman, Sami Aqeel Alawfi, Carol A. Munro, Richard J. Lamont, and Howard F. Jenkinson. 5:2 e00911-14; Published 15 April 2014, [DOI: 10.1128/mBio.00911-14](https://doi.org/10.1128/mBio.00911-14)

Provided by University of Bristol

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