



Contribution ID: 162

Type: Oral presentation

## The commensal to pathogen transition of *Candida albicans*

*Thursday 11 September 2025 10:45 (30 minutes)*

*Candida albicans* is a pathobiont in warm-blooded animals that can cause various mucosal infections as well as life-threatening disseminated disease. Diagnosis of systemic candidiasis is challenging due to unspecific symptoms, low sensitivity of blood culture, and lack of standardized biomarkers differentiating colonization and infection. Delayed diagnosis and limited treatment options result in high mortality rates, which led to *C. albicans* being assigned to the Critical Priority Group of fungal pathogens by the WHO. Although case reports suggest that mucosal and systemic candidiasis occur in different animal species, resembling infections in humans, lack of awareness in veterinary medicine likely results in underdiagnosis.

Here, I will summarize the current knowledge on why and how *C. albicans* shifts from a commensal lifestyle to invasive growth, and highlight how tissue-specific differences shape host-pathogen interactions on different mucosal sites. By investigating different *C. albicans* strains, we found that strain heterogeneity impacts adaptation to and survival on different mucosal surfaces, with consequences for virulence but also immunological responses to colonization. The latter in turn affects host immunity to systemic candidiasis caused by colonizing *C. albicans* strains. Furthermore, it can reduce susceptibility to bacterial infections, raising the question whether eradicating *C. albicans* colonization is a desirable goal.

### Keywords

### Registration ID

ECVM25-93

### Professional Status of the submitter, who is also the speaker

Professor

**Author:** JACOBSEN, Ilse D. (Leibniz Institute for Natural Product Research and Infection Biology)

**Presenter:** JACOBSEN, Ilse D. (Leibniz Institute for Natural Product Research and Infection Biology)

**Session Classification:** Keynote Lecture

**Track Classification:** Keynote Lecture