

# Correlative Dynamics of Filamentous Fungal Adhesion on Anti-Fungal Paint and Polyester Surfaces using Synchrotron Macro ATR-FTIR Microspectroscopy

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Fungal colonisation of different indoor and outdoor substrata is one of the common issues that causes damage and degradation of metallic surfaces. It can be a source of infection for immunocompromised and/or sensitive individuals. In this study, we investigated the initial conidia attachment dynamics of three fungal strains, including *Aspergillus niger* ATCC 9642, *Aureobasidium pullulans* ATCC 9348 and *Epicoccum nigrum* ATCC 42773 on (i) polyester coated surfaces and (ii) polyethylene terephthalate-coated paints. The biochemical information of the initial conidia attachment, particularly saccharides, proteins and lipids, was characterised using synchrotron macro ATR-IR microspectroscopy and correlated with their physical appearance from SEM analysis. The results obtained indicated that during initial interactions with surfaces, the saccharide composition played a significant role in facilitating fungal colonisation on these surfaces. This study also demonstrated synchrotron macro ATR-FTIR as a powerful analytical tool for gaining a better understanding in the filamentous fungal adhesion on these specific surfaces.

## Speakers Gender

Male

## Travel Funding

Yes

## Level of Expertise

Experienced Researcher

## Do you wish to take part in the poster slam

Yes

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