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## Antifungal photodynamic therapy: An overview

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Fungi have become increasingly recognized as major pathogens in critically ill patients. The incidences of superficial and systemic fungal infections have increased markedly and caused a public health problem. Some factors may contribute to rise the occurrence of fungal infections, highlighting that antifungal treatment is limited to a very small number of drug substances; in many cases the treatment is ineffective, especially, due the arising of resistant fungal strains; very often the treatment is prolonged and serious side effects and drug–drug interactions are common. These problems have renewed the search for alternative treatment modalities, and antimicrobial photodynamic therapy (aPDT) seems to be a potential candidate. Several studies have been show that dermatophytes and yeasts can be effectively inhibited *in vitro* and *in vivo* by aPDT, causing a minimal

damage to host cells. This therapy employs a photosensitizer (PS), visible light, and molecular oxygen to produce cytotoxic reactive oxygen species (ROS) that lead to apoptosis. So, my presentation aims to raise awareness of this area of research, which has the potential to make a significant impact in future treatment of fungal infections.

### Speaker Biography

Wanessa Melo has completed her PhD at the age of 29 years in Science with especial focus in microbial infection at Universidade de São Paulo-Brazil. Part of her PhD was realized under Dr. Michael Hamblin supervision at Massachusetts General Hospital and Havard Medical School – Boston-MA. Her postdoctoral was performed at Universidade Estadual de São Paulo – Brazil, evaluating the activity of photodynamic therapy against fungal biofilms. Currently, she is professor-research at Faculdade de Guanambi- Brazil, where she develops several studies in photodynamic therapy area.

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