



iFungi: From Neglected Fungi to a New Era in Medical Mycology

Wenjie Fang^{1,2}, Xinyao Liu³, Amir Arastehfar^{4,5,6}, Farnaz Daneshnia^{5,7}, Wanqing Liao^{1,2}, and Weihua Pan^{1,2*}

¹ Shanghai Key Laboratory of Molecular Medical Mycology, Shanghai Changzheng Hospital, Naval Medical University, Shanghai, China

² Center for Basic Research and Innovation of Medicine and Pharmacy, Ministry of Education of the PRC, Shanghai, China

³ Laboratory of Pathogen Research, West China Hospital, Sichuan University, Chengdu, China

⁴ Department of Internal Medicine II, University Hospital Wuerzburg, Wuerzburg, Germany

⁵ Division of Infectious Diseases, Massachusetts General Hospital, Boston, USA

⁶ Department of Medicine, Harvard Medical School, Boston, USA

⁷ Institute of Biodiversity and Ecosystem Dynamics (IBED), University of Amsterdam, Noord-Holland, The Netherlands

Fungal diseases have long carried a burden far greater than the attention they have received. Their impact on human health is profound, yet their urgency has remained obscured, a reality reflected in evidence highlighting the persistent and systemic underestimation of pathogenic fungi [1]. Taking a backseat to viral and bacterial infections on funding support, delayed diagnoses, high mortality, and limited surveillance frameworks have allowed these infections to remain hidden in plain sight, even as their global significance continues to grow.

Recent analyses have clarified what has long remained obscured. Denning estimated that serious fungal diseases affect approximately 6.5 million people annually and are associated with about 3.8 million deaths, including an estimated 2.5 million directly caused by fungal infection [2]. These numbers suggest that fungal diseases may account for 6%-7% of global mortality [3]. Brown *et al.* described them as "hidden killers", emphasizing that limited diagnostics and restricted therapeutic options had impeded recognition of their true burden [4]. Xia *et al.* estimated that pulmonary fungal infections account for 5.62 million incident cases and over 45,000 deaths annually, with a disproportionately heavy disease burden persisting in regions with lower sociodemographic indices [5].

The forces shaping fungal disease epidemiology continue to evolve. The widespread use of antifungal drugs in the clinic or environment (partially) triggered the emergence of drug-resistant fungal pathogens, including, but not limited to, *Candida auris*, *C. parapsilosis*, *C. glabrata*, *Aspergillus fumigatus*, etc. Whereas the growing populations of immunocompromised patients, advances in intensive care, and demographic shifts all contribute to rising vulnerability. Environmental and climate factors may further alter fungal ecology. In 2022, the World Health Organization released the first Fungal Priority Pathogens List (FPPL), identifying 19 pathogens of global concern and calling for coordinated improvements in diagnostics, therapeutics, surveillance, and research [6]. The FPPL signaled a broader recognition that fungal diseases must be addressed with greater precision and urgency [7].

With the ultimate goal of highlighting the importance of fungal infections, we launch *iFungi* (eISSN 3079-7284). As an international, peer-reviewed, open-access journal dedicated to medical mycology, *iFungi* aims to provide a unified home for research that has long been dispersed across disciplines. The field spans microbiology, infectious diseases, oncology, immunology, critical care, and public health, but this breadth has fragmented the evidence base and limited shared direction, and key data for guidelines and policy remain scattered. Additionally, basic and clinical advances often progress in parallel. A dedicated venue for human pathogenic fungi, one that brings together mechanistic, clinical, and population-level in-

* Corresponding author: Weihua Pan, E-mail: panweihua9@sina.com

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sights, has been lacking. *iFungi* seeks to close this gap by providing a focused platform that brings together scientific, clinical, and public health evidence. Integration is central to our mission: real progress in medical mycology depends on connecting molecular mechanisms, clinical observations, and population-level data. By linking these dimensions, we aim to guide clearer directions for research, clinical care, and public health.

Our scope reflects this intention. 1) We welcome basic studies that advance understanding of fungal genetics, cell biology, virulence, host-pathogen interactions, and ecological determinants, particularly when they illuminate clinical phenomena or suggest new diagnostic or therapeutic pathways. 2) We encourage clinical research that improves diagnosis, treatment, and patient outcomes, including work in high-risk populations such as transplant recipients, patients receiving cancer therapy, those under intensive immunosuppression, and individuals in critical care. 3) We support innovation in diagnostics and therapeutics, from rapid and point-of-care testing to multi-omics approaches, antifungal drug development and repurposing, novel formulations, combination therapy, immunotherapy, and vaccine discovery. 4) We also recognize the essential roles of epidemiology and public health, including burden estimation, resistance surveillance, outbreak analysis and environmental or climate-linked drivers of disease. 5) Finally, we welcome methodological advances from disciplines beyond traditional medical mycology, such as computational biology, engineering, materials science, systems immunology and data science, when they offer new insights or solutions. Notably, high-quality data from all settings, whether high-burden, resource-limited or well-resourced, are crucial for a globally relevant evidence base. *iFungi* is committed to providing an inclusive and equitable platform in which submissions are judged solely on scientific rigor, originality, and relevance, ensuring that valuable contributions from every region can shape the field.

The "i" in *iFungi* outlines the agenda we intend to pursue: to **identify** fungal threats with precision; to promote **innovation** in diagnostics, therapeutics, and prevention; to **integrate** basic, clinical, and public health perspectives; to **inform** guidelines, stewardship, and policy; and to **inspire** new investigators and amplify work from regions most affected by fungal disease. These commitments will guide the journal's development and our editorial priorities.

Medical mycology is entering a decisive period. The burden of disease is better recognized; populations at risk continue to expand; and emerging technologies, genomic tools, imaging, multi-omics platforms, digital surveillance, and novel therapeutics are reshaping what is possible. Yet many regions with the highest mortality continue to lack essential diagnostics, antifungal agents, and surveillance capacity. Addressing these challenges requires coordinated scientific, clinical, and public health engagement, supported by a dedicated platform able to connect evidence across disciplines and regions. *iFungi* was created to help meet this need.

We invite colleagues across fungal biology, clinical mycology, diagnostics, therapeutics, epidemiology, and global health to bring your high-quality work to *iFungi*. We also warmly welcome experts from any discipline whose tools, theories, or technologies may illuminate new solutions to fungal disease. Together, we can help build a new era in medical mycology, one marked not by neglect, but by recognition, momentum, and sustained progress.

Conflicts of interest

Weihua Pan holds the position of Editor-in-Chief for *iFungi*, Wenjie Fang, Xinyao Liu, Amir Arastehfar, and Farnaz Daneshnia hold the position of Executive Editors for *iFungi*.

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Author's contributions

Wenjie Fang: Writing, review, and editing. **Xinyao Liu:** Writing, review, and editing. **Amir Arastehfar:** Writing, review, and editing. **Farnaz Daneshnia:** Writing-review and editing. **Wanqing Liao:** Writing, review, and editing. **Weihua Pan:** Writing-review and editing; conceptualization.

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