

# ISHAM Genotyping Resistance in Fungi Workshop

## Convenors

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## Objectives

1. To develop an agreed nomenclature for mutations and other structural genetic alterations in *Candida* spp., *Aspergillus* spp. and *Pneumocystis jiroveci* that confer antifungal resistance
2. To document all genotypic resistance mutations in these 3 species
3. To agree for each genus what dataset is sufficient to 'call' a genotypic resistance mutation of marker
4. To publish a supplement describing the output of this workshop
5. To communicate the agreed findings to the CLSI and EUCAST AFST to aid future decision-making in antifungal susceptibility testing methodology discussions and breakpoint decision-making

## Participants and roles

David Denning, Manchester - chairperson

William Hope, Manchester – primary drafter of consensus document + flucytosine resistance in *C. albicans*

Dominique Sanglard, Lausanne - azole and fungicide resistance in *Candida* and *Aspergillus* spp.

Ted White, Seattle – azole resistance in *Candida*

Steve Kelly, Swansea – azole resistance

David Perlin, Newark – azole and echinocandin resistance in *Candida* and *Aspergillus* and terbinafine resistance in *Aspergillus*

Emilia Mellado, Madrid – azole resistance in *Aspergillus*

Philip Hauser, Lausanne – sulphamethoxazole and atavaquone resistance in *Pneumocystis*

Pentti Huovinen, Turku - sulphamethoxazole resistance in *Pneumocystis*

Peter Iliades, Victoria - sulpha resistance in *Pneumocystis*

Frank Odds, Aberdeen – antifungal resistance in *Candida* generally and CLSI committee

Gunnar Kahlmeter, Stockholm – EUCAST chairman, nomenclature

Derek Brown, Cambridge – EUCAST secretary, nomenclature

Juan-Luis Rodriguez-Tudela, Madrid, EUCAST AFST chairman, susceptibility testing in fungi

Peter Donnelly, Nijmegen – EUCAST AFST secretary, nomenclature and drafting

Workers in the relevant laboratories, other members of the EUCAST AFST and CLSI antifungal committee and other members of ISHAM will be invited to come at their own expense and without specific contributions, other than contributing to discussion.

## Outline agenda

Objectives and introductions

Current nomenclature in bacteria and viruses for genotypic resistance

‘Gold standard’ for resistance [In vitro, in vivo model, clinical data]

Azole resistance in *Aspergillus* (the *in vitro/in vivo* correlation, poor clinical data example)

Flucytosine resistance in *Candida* (the *in vivo/in vitro* mismatch, no clinical data example)

Echinocandin resistance in *Candida* (the partial *in vitro*, biochemical and *in vivo*, limited clinical data example)

Cotrimazole in *Pneumocystis* (the clinical data and biochemical example)

Atavaquone in *Pneumocystis* (the limited clinical data example)

Terbinafine in *Aspergillus* (the *in vitro* only example)

Selection of nomenclature

‘Approved’ and ‘provisional’ genotypic resistance markers

Monitoring and data centralisation

Publication and consultation

#### Duration

1.5 days

#### Location

Education and Research Centre, Wythenshawe Hospital, Manchester (10 minutes by car from airport)