

ISHAM Working Group Annual Report 2023

1. Title of Working Group

ISHAM Fungal Diagnostics Working Group (ISHAM-Fungal Dx)

2. Name(s) of Coordinator(s) with email addresses

1. Prof. Dr. Amir Seyedmousavi.
National Institute of Health, Bethesda, MD, USA.
Seyedmousavi@nih.gov
2. Prof. Dr. Malcolm Richardson
Mycology Reference Centre Manchester, Manchester, UK.
malcolm.richardson@manchester.ac.uk

3. Website URL for external website (if relevant)

<https://fungaldx.com/>

<https://www.isham.org/working-groups/fungal-diagnostics>

E-mail: isham@fungaldx.com, fungaldiagnosics@gmail.com

Twitter: @Fungaldx

Facebook: ISHAM Fungal Diagnostics

Linked in: ISHAM Fungal Diagnostics Working Group

4. Objectives and expected outcomes for the forthcoming year

For 2025, we are planning to organize a course pre-conference ISHAM2025, subject 'Fungal Diagnostics' on Tuesday, 20 May 2025. The duration of this meeting is one full day and it's intended for 100 participants.

Course Objectives: To provide a comprehensive, and detail-oriented primer or refresher on the currently available approaches, challenges, and solutions in diagnosis of fungal infections in different clinical settings. The antifungal susceptibility and resistance testing will be also discussed. In addition, we will provide scientific evidence on importance of fungal disease laboratory screening and infection prevention.

We also submitted our proposal to organize below list of sessions during ISHAM2025:

1. Session 1. General Meeting- Fungal Diagnostics Working Group
2. Session 2. Standardization of fungal diagnostics
3. Session 3. Algorithm-based diagnosis of fungal infections
4. Session 4. Role of diagnostic laboratories in outbreak investigation

5. Achievements of the Working Group in 2023 (250 words) ¹⁻³

In 2023, the board members met several times and developed the program of ISHAM-Fungal DX 2024, as listed below. We also were able to attract several world class leading experts as speakers of the course.

Program of ISHAM-Fungal Dx 2024 (Fungal Diagnostics in Clinical Practice, December 4-5, 2024, Bethesda, MD, USA:

Day 1: December 4, 2024

08:00-8:30- Registration & Refreshments

08:30-08:45-Welcome and introductions: Amir Seyedmousavi, USA & Malcolm Richardson, UK

Session 1:

08:45-09:00 Case study 1: Why it's important to know local epidemiology of fungal infections? John Bennett, USA

09:00-09:30-Opportunistic fungal disease in normal and abnormal hosts, ICU patients, and children: underlying risk factors: John Perfect, USA

09:30-10:00-Global burden of fungal diseases (updates on Latin America, African countries, Europe and Asia): Arnaldo Colombo, Brazil

10:00-10:30-Fungal nomenclature (medically important fungi): Amir Seyedmousavi, USA

10:30-10:45-WHO fungal priority list and other emerging fungal pathogens: Ana Alastruey, Spain

10:45-11:00: Comfort Break

Session 2:

11:00-11:15-Case study 2: Why is it important to collect specimens properly if fungal diseases are suspected?: Juan Gea-Banacloche, USA

11:15-11:30-Clinical sampling, Processing and Direct microscopic examination: Arunaloke Chakrabarti, India

11:30-12:00-Cytology and histopathology: Gary Procop, USA

12:00-12:30-Detection of Pneumocystis pneumonia in HIV associated and non-HIV patients: Riina Richardson, UK

12:30-1:30: Lunch

Session 3:

1:30-2:00-Case study 3: Importance of species level identification: Shawn Lockhart, USA

2:00-2:30-Diagnostic work up for yeast infections: Malcolm Richardson

2:30-3:00-Diagnostic work up for mould infections: Cornelia Lass-Flörl, Austria

3:15-3:30-Diagnostic work up for dimorphic fungal infections: Nathan Wiederhold, USA

3:30-3.45-Comfort Break

Session 4:

3:45-4:15: Fungal molecular testing, and how to use next-generation sequencing in clinical laboratory: Lewis White, UK

4.15-4:45: Benefits and Limitations of MALDI-TOF for fungal identification: Darius Armstrong-James, UK

4:45-5:30-Daily Review, Q@A: Amir Seyedmousavi, USA & Malcolm Richardson, UK
Day 2: December 5, 2024

08:30-08:45-Good morning: Amir Seyedmousavi, USA & Malcolm Richardson, UK
Session 5:

08:45-09:00-Case study 4: Which antifungal to choose?: Amir Seyedmousavi, USA

09:00-09:30-Antifungals and their mechanisms of action: currently available and new antifungal drugs: Mihalis Lionakis, USA

09:30-10:00-Antifungal susceptibility testing (EUCAST versus CLSI): Nathan Wiederhold, USA

10:00-10:20-Mechanism of antifungal resistance in yeasts and currently available phenotypic and genotyping laboratory assays: Mahmoud Ghannoum, USA

10:20-10:45-Mechanism of antifungal resistance in molds and currently available phenotypic and genotyping laboratory assays: Paul Verweij, Netherlands

10:45-11:00: Comfort Break

Session 6:

11:00-11:30-Case study 5: Fungal disease laboratory screening and infection prevention: why, when, where, and how?: Tom Chiller, USA

11:30-12:00-Testing for Candida auris colonization screening: Philippe Dufresne, Canada

12:00-12:30-Infection prevention for zoonotic dimorphs and other emerging fungal disease: Flavio Queiroz Telles, Brazil

12:30-1:30-Lunch

Session 7:

1:30-2:00-Case study 6: Fungal biomarkers for presumptive diagnosis of invasive fungal diseases: Lewis White, UK

2:00-2:30-Serodiagnosis of histoplasmosis, blastomycosis and coccidioides infection: Joe Wheat, USA

2:30-3:00-Non-culture-based diagnosis of Aspergillus vs. Candida: Martin Honigl, Austria

3:15-3:30: Cryptococcosis antigen detection: Mohammad Hedayati, IRAN

3:30-3.45-Comfort Break

Session 8:

3.45-4.15-Case study 7: A clinician's view of point of care diagnostics for invasive mold disease: promises, challenges and prospects: Dimitrios Kontoyiannis, USA

4:15-4:30- Evolution of fungal diagnostics for clinical microbiology applications. what's new?: Hari DWIVEDI, USA

4:30-5:00-Fungal cell-free DNA (cfDNA) detection: Niaz Banaei, USA

5:00-5:30-Non-invasive surrogate markers under development: Kieren Marr, USA

5:30-6:30-Daily Review, Q@A: Amir Seyedmousavi, USA & Malcolm Richardson, UK

Faculty

- * Cornelia Lass-Flörl, Austria
- * Martin Hönigl, Austria
- * Arnaldo Colombo, Brazil
- * Flavio Queiroz Telles, Brazil
- * Philippe Dufresne, Canada
- * Arunaloake Chakrabarti, India

- * Mohammad Hedayati, Iran
- * Masoud Mardani, Iran
- * Paul Verweij, Netherlands
- * Ana Alastruey-Izquierdo, Spain
- * Malcolm Richardson, UK
- * Riina Richardson, UK
- * Lewis White, UK
- * Darius Armstrong-James, UK
- * John Perfect, USA
- * John Bennett, USA
- * Dimitrios Kontoyiannis, USA
- * Kieren Marr, USA
- * Mahmoud Ghannoum, USA
- * Juan Gea-Banacloche, USA
- * Mihalis Lionakis, USA
- * Nathan Wiederhold, USA
- * Joe Wheat, USA
- * Hari Dwivedi, USA
- * Gary Procop, USA
- * Niaz Banaei, USA
- * Tom Chiller , USA
- * Shawn Lockhart, USA
- * Amir Seyedmousavi, USA

6. Publications arising from the Working Group

- We are working on a textbook, titled: Medical Mycology, a practical approach.
- A review paper is also under way, subject: Algorithm based diagnosis of fungal infections.

7. Funding provided by ISHAM in the past 3 years (Budget and year)

- **2023=** 10,000 CHF to support Fungal Dx 2024 event

Supplemental material for the new website

We would like the address of our working group's website being added into ISHAM webpage.

<https://fungaldx.com/>

8. Working Group Mission Statement

Please summarize in one paragraph of approximately 50-75 words the scope, purpose and ambition of your working group:

Here is the mission statement for Fungal Diagnostics Working Group (ISHAM-Fungal Dx):

1. to form an international network where clinical microbiology/mycology laboratory directors and clinicians can exchange knowledge.
2. to establish and coordinate joint research projects between members of the Fungal Diagnostics and other ISHAM working groups and international societies.
3. to initiate and contribute to the development of international guidelines subject fungal diagnostics.
4. Coordinate multicenter audits and research and write joint publications.
5. to develop international educational programs to aid in the diagnosis and care of patients with fungal infections.
6. to organize meetings and sessions at congresses as appropriate
7. to enhance the global understanding, accessibility, and validity of fungal diagnostics

8. Upcoming events planned for 2024-2025

In 2024, we are organizing a two days postgraduate workshop, subject Fungal Diagnostics in Clinical Practice, December 4-5, 2024, Bethesda, MD, USA <https://fungaldx.com/>.

For 2025, we are planning to organize a course pre-conference ISHAM2025, subject 'Fungal Diagnostics' on Tuesday, 20 May 2025. We also submitted our proposal to organize four sessions during ISHAM2025.

9. Top 3 WG products from the past 5 years

Please include links to manuscripts, meeting reports, position papers or other outputs from WG activities

1. On March 15th, 2022, application submitted to ISHAM-Council to initiate 'Fungal Diagnostics Working Group'.
2. On April 12rd, 2022, the application was accepted by ISHAM-Council.
3. The first board meeting of 'Fungal Diagnostics Working Group' was organized online on Friday July 15th to discuss about current and future activities of WG.
4. A scientific expert session was organized 'during ISHAM-2022 at Hotel the Ashok, New Delhi, India: on Thursday 22 September.
Subject: Standardization of diagnostic mycology laboratories
<https://www.isham2022.org/september22/>
A scientific expert session was organized 'during 11th Trends in Medical Mycology

20-23 October 2023, Athens, Greece, subject Standardization of Fungal Diagnostics.

5. In 2024, we are organizing a two days postgraduate workshop subject Fungal Diagnostics in Clinical Practice, December 4-5, 2024, Bethesda, MD, USA <https://fungaldx.com/>. This interactive postgraduate workshop is intended for anyone who want to improve their knowledge and understanding in the area of Fungal Diagnostics, including, Physicians and trainees in infectious disease, critical care, transplantation, haemato-oncology, dermatology, pediatrics, and other clinical specialties dealing with fungal infections, Clinical microbiology laboratory directors/consultants, CPEP microbiology fellows, Clinical laboratory scientists (diagnostic microbiology/mycology), PhD students and Postdoctoral researchers , Scientists from infectious disease in vitro diagnostics (IVD) industry or pharmaceutical companies.

We are delighted to report here that there is a great deal of interest in this meeting December 4-5, 2024, Bethesda, MD, USA. We are expecting to have 100 participants in the meeting (including speakers). We are still 6 months away from the meeting and by end of early bird registration, almost 80% of seats are sold out and we expect to close the standard registration in the next few weeks, which is much sooner than our deadline.

5. Images

Please provide a links or attach by email to this report at least one striking image that can be shared in your WG space for visual impact. Please provide here a short (one to two sentence) description of all images. All images should be public domain

6. Working Group members

Please provide a complete list of all WG members

Working group board members:

Sharon Chen (Australia)

Martin Hönigl (Austria)

Arunaloke Chakrabarti (India)

Mohammad Hedayati (IRAN)

Maiken Arendrup (Denmark)

Ana Alastruey-Izquierdo (Spain)
Riina Richardson (Manchester, UK)
Malcolm Richardson (Manchester, UK)
Lewis White (Cardiff, UK)
Darius Armstrong-James (London, UK)
Amir Seyedmousavi (USA)
Nathan Wiederhold (USA)

Our working group also has 350 registered members:

First Name:	Family Name:
Florent	Morio
Andrew	Hanzlicek
Reham	Khedr
Regielly	Cognialli
Jochem	Buil
Joel	Bazira
Neil	Stone
Maria	Burgos
Juan Carlos	Celis Salinas
Alida Fe	Talento
MELISSA	
ORZECZOWSKI	XAVIER
Ankita	Kumari
Akshatha	Ravindra
Petr	Hamal
Daniel	Morse
	CalderÃ³n
Alejandra	HernÃ¡ndez
Mohanad	Al-Obaidi
Judith	Berman
Carlos	Zala
Nathan	Bahr
Hamish	Houston
Abbas	Saleh
Iriagbonse	Osaigbovo
Julio	Maquera-Afaray
Pei-Lun	Sun
Rahul	Garg
Mohammadali	Zia
Ahmed	Ahmed Hardo
	Vahedi
Roya	Shahandashti
Gagandeep	Singh

Theresa	Awotundun
Confidence Paul	Ediawe
Ovidiu	Zlatian
UZOMA	ABARA
Oluchi	Alaribe
Ferry	Hagen
Christophe	Hennequin
abhishek	Verma
Malgorzata	Mikulska
Luca	Villa
Mehmet Mucahit	Guncu
NILGUN	KARABICAK
Yinggai	Song
Roman	Ovchinnikov
Joy Sarojini	Michael
Alireza	Abdolrasouli
Eduardo	Bagagli
Dr Malabika	Biswas
Devarshi	Gajjar
Boldbaatar	Sukhbaatar
Gunjan	Uttam
Juliette	Guitard
Beatriz	Gomez
Yasmin Khairani	Ismadi
Vania	Vicente
SANDRO	PEREIRA
Marina	Manoyan
Sixto	Leal
Yee-Chun	Chen
Pratibha	Kale
DR. Nilam Fadmaulidha	Wulandari
Bishal	Gupta
Neha Nidhi	Tirkey
Álvaro Leñn	Rãa Giraldo
Gabriella	Grace
Guillermo	Giordano
RESHU	AGARWAL
Neelima	angaali
Sana	Afreen
Olumuyiwa	Igbalajobi
Ankita	Das
Twishi	Shrimali
Dr Charu Jain	Charu
MOHIT	BHATIA
Nimmy Elizabeth	George
Mohammad	Riyaz

Oliver	Bader
Amith	Joshi
Vidhi	Jain
Willem	Melchers
Elvis	Temfack
Alexandre	Alanio
Pragnya P	Jena
Dr Kamran	Zaman
SANTHANAM	NAGUTHEVAR
Laura	Trovato
Tahereh	Shokohi
Sivanantham	Krishnamoorthi
Kauser	Jabeen
GOPA	Banerjee
Geetanjali	Sakhare
Justin	Beardsley
Sumanta	A
Nandini	Sethuraman
Ashish	William
Cornelia	Lass-FIA¶rl
Hamed	Fakhim
Abdullah	Al-Hatmi
Manoj	Shevkani
Prashant	Gupta
Joerg	Steinmann
Jean Paul	DZOYEM
Aanchal	Sharma
Nitipong (Nate)	Permpalung
Arghadip	Samaddar
Michaela	Lackner
Juan	Gomez
Pankaj	Chaudhary
Anugula	Amritha
Dr Geethu	Joe
Sadegh	Khodavaisy
Purvi	Joshi
SOMESHWARAN	R
Edmund Ato	Dadzie
Anurag	Mittal
Pinal	Dilipbhai
Plinio	Trabasso
Vindana	Chibabhai
Helena	Schirmer
Adriana	Sanchez
Matthew	Fisher
Teresa	Abajo

Philippe	Dufresne
JAYANTHI	SAVIO
Shawn	Lockhart
Adriana Pardini	Vicentini
Jay	Kolls
Sean	Bauman
Richard	Kwizera
Brian	Doherty
Ruben	Rodriguez
JT	Harrison
Hasti	Kamali Sarvestani
Dea	Garcia-Hermoso
VALENTINA	ARSIC ARSENIJEVIC
Behrad	Roohi
Mark	Anyijuka
RenÅitÃ³	KovÅics
Heather	Mead
David	KOFFI
Sarah	Ahmed
Rani Diana	Sahni
Jean-Pierre	Gangneux
Enrique	Zumaeta
Chiharu	Okumura
Dianne	Gardam
Ariya	Chindamporn
Sangeetha	Mohan
Ambujavalli	
Balakrishnan	Thayikkannu
Dr Soumyadeep	Seal
Martina	Rosslova
BUYI	JONAH
Pilar	Escribano
Katsuhiko	Kamei
Madduri	Madhuri
MIHAI	MARES
MarÅa JosÅ©	Buitrago
Maria-Dolores	Moragues
M. Hong	Nguyen
Rasmus KrÅ,ger	Hare
Mario	Cruciani
johan	maertens
Sanjay	Patel
Mauricio	Carbia
Laurence	Millon
Neelam	Kandir
Martina	Lengerova

Boualem	SENDID
Aishwarya	K
Jos�� Guillermo	Pereira Brunelli
Deborah	Palacios
Findra	Setianingrum
Robiatul	Adawiyah
MI	ZHOU
SUBHENDU	SIKDAR
Nidhi	Singla
Sarah	Delli��re
Rosely	Zancope-Oliveira
Sebastien	Imbert
Katrien	Lagrou
Hugo	Madrid
Jeannete	Zurita
Diego	Caceres
Vidyavathi B	Chitharagi
Eric	Dannaoui
Sidhya	Choudhary
Pradeep kumar	Singh
Mlki	Nagao
an	Martel
Marie-Pierre	Hayette
Rosalie	Sacheli
Giulia	Morganti
Tomasz	Jagielski
Wieland	Meyer
Reema	Nath
silke	schelenz
Anuradha	Sharma
Takashi	Umeyama
Heather	Glasgow
Birgit	Willinger
Aarti	Sangale
Chimanjita	Phukan
Abiroo	Jan
Husam Eldin	Mohamed
Mousami	Dalvi
Oliver	Kurzai
Olga	Mashedi
Mutaz	Hamad
Nydia Alejandra	Castillo-Martinez
Shubham	Chauhan
Hossein	Zarrinfar
Luisa Fernanda	Mart��nez Amador
Mohd Hanif	Jainlabdin

Satwika	Rompally
Anne-CÃ©cile	Normand
Pierre	Becker
Azadeh	Mizani
MEGHA	SHARMA
Shreya	Singh
Heather	Largura
Zoi	Pana
Lawrence	Wheat
Archana	keche
Malcolm	Richardson
Gemma	Johnson
Jamie	Colloty
Rosanne	Sprute
Feranmi	Obe
Rahul	Rahul Ranjan
Jane	Sykes
Saman	Mohammed
Akira	Watanabe
Dr. Soha	Moursi
Swetha	Subburaj
Philippe	Dufresne
Minh Hong	Nguyen
Thomas	Grys
Anderson	Messias Rodrigues
Indarjulianto	Soedarmanto
Marcus	Teixeira
Habip	Gedik
Sean	Zhang
Rakesh	Singh
George	Thompson
Catriona	Halliday
Doblin	Sandai
Kin Ming (Clement)	Tsui
Henrik Elvang	Jensen
Engin	Kaplan
BEYZA	ENER
M.Teresa	Martin-Gomez
Florence	Persat
Marina	Manoyan
Jorge	Tovar-Torres
John	Bonnewell
GÃ¼l Khan	Metan
Teny	John
Elsa	Leclerc Duarte
Luisa	Gomez

Julianne	Kus
Tanis	Dingle
Nancy	Wengenack
Daniel	Elad
Fabianne	Carlesse
Luis	Ostrosky-Zeichner
Christina	Cuomo
Deniz	Turan
Sebastian	Wurster
Jayaseelan	Murugaiyan
Wendy	van de Sande
Camille	Florencio
Macit	Ilkit
Poulami	A
Isabel	Iturrieta-González
Cene	Gostinčar
Sāleyha	HilmioŸlu Polat
Fazal ur rehman	Khilji
Hazal	Kandemir
Stephen	De'Ath
Giammarco	Raponi
Roxana	Vitale
Raquel	Sabino
Rohitashw	Kumar
Daniel Wagner	Santos
Malcolm	Finkelman
Emeka	Nweze
Sherif	Zaki
Akraam	Ali
Eva	Galvez
Joshua	Fierer
Gary	Procop
Meizhu	Wang
Melek	Tikvesli
BIRHAN	Alemnew
Gloria M.	González
Juan	Gea-Banacloche
Jennifer	Cuellar Rodriguez
Giuseppe	Ferrara
Jenny	Muñoz Lombo
Richardson Biotech	Company
Subash	Babu
Hanani Norlina	Mahpudz
Kamiar	Zomorodian
Vinaykumar	Hallur
Laura	Goodman

AMEL	SALAH
Jo	Rhodes
Laura	Nielsen
RUCHIKA	BAGGA
Gerard	Sheehan
Muhammad	Absar
Yasemin	Tezer TekÅŒe
Alice	Kanyua
Monalisha	Mallik
Prashant	Sood
Won Hee	Jung
Thomas	Walsh
Summiya	Nizamuddin
Maiara	Campolina
Po-Yu	Liu
Carolina	Melchior do Prado
Rasha	Mosbah
Eric	Holbrook
Moises	Silva
Fida	Ahmed
Elieshiupendo	Niccodem
Michael	Bokobola
Samson	Godwin
Anthon	Mwingwa
Adam	Mwakyoma
Viral	Shah
Javad	Javidnia
Aijaz	Ahmad
Leili	Chamani-Tabriz
Christine	Mandengue
Mohammad Reza	Jabbari Amiri
Bright	Ocansey
Immaculata	Xess
Timothy	Crane
Christine	Carson
Andy	Alhassan
Padmapriya	Banada
Ezekiel	Omoshaba
Grace	Ayanbimpe
Shkar	Kwekha Rostam
Afreenish	Amir
Yusuf	Mohammed
Diptanu	Paul
Daryl	Clyne Ennis

¹ The achievement arising from the Working Group with acknowledge its status within ISHAM by explicitly including the phrase “ISHAM Working Group” in all public and professional publications, workshop programs, lectures, its website or similar activities.

² Achievements of the Working Group include but not limited to the following:

- meeting/workshop/training course/symposium of the working group,
- peer-reviewed publication,
- presentation (symposium, oral or poster paper) from working group during ISHAM congress,
- contribute material to the main ISHAM website and its regular newsletter.
- Increase ISHAM members, strengthen link between ISHAM and working group, and enhance visibility of ISHAM.

³ Supporting information for achievements are welcome.