

Sarah Ahmed, PhD

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PROFESSIONAL EXPERIENCE

Postdoctoral Researcher

March. 2020 – present
The Netherlands

Center of Expertise in Mycology Radboudumc/CWZ

Postdoctoral Researcher

March. 2020 – present

Foundation Atlas of Clinical Fungi

The Netherlands

Postdoctoral Researcher

Oct. 2016 – Feb. 2020

Westerdijk Fungal Biodiversity Institute

The Netherlands

Lecturer

Mar. 2010 – Dec. 2020 University of Khartoum, Medical microbiology

Sudan

Teaching assistant

Nov. 2008 – Aug. 2011 Ibn Sina National College for Medical Studies

Sudan

Teaching assistant

Apr. 2005 – Apr. 2006 Sharg Elneil College, School of Medical Laboratory Sciences

Sudan

Laboratory analyst

Feb. 2004 – Sept. 2004 Sara and Gonaima Maternity Center

Sudan

EDUCATION

PhD in Science

Sept. 2011- Feb. 2016: Fungal Biodiversity Centre (CBS- KNAW), Institute for Biodiversity and Ecosystem Dynamics (IBED)
University of Amsterdam The Netherlands

M.Sc Medical Laboratory Sciences- Microbiology

Oct. 2007- Oct. 2009: University of Khartoum Sudan.

Bachelor of Medical Laboratory Sciences-Microbiology (Honours)

Nov. 1999-Nov. 2004: University of Khartoum Sudan.

PUBLICATIONS

Peer reviewed articles

Ahmed SA, Bonifaz A, González GM, Moreno LF, Menezes da Silva N, Vicente VA, Li R, de Hoog S. (2021). Chromoblastomycosis Caused by *Phialophora*—Proven Cases from Mexico. *Journal of Fungi*. 7(2):95.

Quan Y, **Ahmed SA**, Menezes da Silva N, Al-Hatmi AMS, Mayer VE, Deng S, Kang Y, Sybren de Hoog G, Shi D. (2021). Novel black yeast-like species in chaetothyriales with ant-associated life styles. *Fungal Biol.* ;125(4):276-284. doi: 10.1016/j.funbio.2020.11.006.

Tang C, Kong X, **Ahmed SA**. et al. (2021). Taxonomy of the *Trichophyton mentagrophytes*/T. interdigitale Species Complex Harboring the Highly Virulent, Multiresistant Genotype T. indotineae. *Mycopathologia*. <http://sci-hub.tw/10.1007/s11046-021-00544-2>.

Jiang Y, Luo W, Verweij PE, Song Y, Zhang B, Shang Z, Al-Hatmi AMS, **Ahmed SA**, et al. (2021). Regional Differences in Antifungal Susceptibility of the Prevalent Dermatophyte *Trichophyton rubrum*. *Mycopathologia* 186, 53–70.

Nyuykonge B, Eadie K, Zandijk WHA, **Ahmed SA**, Desnos-Ollivier M, Fahal AH, de Hoog S, Verbon A, van de Sande WWJ, Klaassen CHW. (2021). A Short-Tandem-Repeat Assay (MmySTR) for Studying Genetic Variation in *Madurella mycetomatis*. *J Clin Microbiol.* 18;59(3):e02331-20. doi: 10.1128/JCM.02331-20.

Ahmed SA, de Hoog S, Kim J, Crozier J, Thomas SE, Stielow B, Stevens DA. (2020). *Gloeostereum cimri*, a novel shelf fungus isolated from a human pulmonary cyst. *Emerg Microbes Infect.* 9(1):1114-1122. doi: 10.1080/22221751.2020.1769499.

Quan Y, Muggia L, Moreno LF, Wang M, Al-Hatmi AMS, da Silva Menezes N, Shi D, Deng S, **Ahmed S**. et al. (2020). A re-evaluation of the Chaetothyriales using criteria of comparative biology. *Fungal Diversity* 103, 47–85.

Ahmed EA, Nour BYM, Abakar AD, Hamid S, Mohamadani AA, Daffalla M, Mahmoud M, Altayb HN, Desnos-Ollivier M, de Hoog S, **Ahmed SA**. (2020). The genus *Madurella*: Molecular identification and epidemiology in Sudan. *PLoS Negl Trop Dis* 14(7):e0008420. doi: 10.1371/journal.pntd.0008420.

Lim W, Siddig E, Eadie K, Nyuykonge B, **Ahmed S**, Fahal A, et al. (2020) The development of a novel diagnostic PCR for *Madurella mycetomatis* using a comparative genome approach. *PLoS Negl Trop Dis* 14(12): e0008897.

Nyuykonge B, Klaassen CHW, Zandijk WHA, de Hoog GS, **Ahmed SA**, Desnos-Ollivier M, Verbon A, Bonifaz A, van de Sande WWJ. (2020). Diagnostic implications of mycetoma derived from *Madurella pseudomycetomatis* isolates from Mexico. *J Eur Acad Dermatol Venereol.* 34(8):1828-1834. doi: 10.1111/jdv.16402.

Arastehfar A, Lim W, Daneshnia F, van de Sande WWJ, Fahal AH, Desnos-Ollivier M, de Hoog GS, Boekhout T, **Ahmed SA**. (2020). *Madurella* real-time PCR, a novel approach for eumycetoma diagnosis. *PLoS Negl Trop Dis.* 14(1):e0007845. doi: 10.1371/journal.pntd.0007845.

Mohsin J, Weerakoon S, **Ahmed S**, Puts Y, Al Balushi Z, Meis JF, Al-Hatmi AMS. (2020). A Cluster of *Candida auris* Blood Stream Infections in a Tertiary Care Hospital in Oman from 2016 to 2019. *Antibiotics* (Basel). 9(10):638. doi: 10.3390/antibiotics9100638.

Teixeira MM, Muszewska A, Travis J, Moreno LF, **Ahmed S**, Roe C, Mead H, Steczkiewicz K, Lemmer D, de Hoog S, Keim P, Wiederhold N, Barker BM. (2020). Genomic characterization of *Parengyodontium americanum* sp. nov. *Fungal Genet Biol.* 138:103351. doi: 10.1016/j.fgb.2020.103351.

Dukik K, de Hoog GS, Stielow JB, Freeke J, van den Ende BG, Vicente VA, Menken SBJ, **Ahmed SA**. (2020). Molecular and Phenotypic Characterization of *Nannizzia* (Arthrodermataceae). *Mycopathologia*. 185(1):9-35. doi: 10.1007/s11046-019-00336-9.

Quan Y, van den Ende BG, Shi D, Prenafeta-Boldú FX, Liu Z, Al-Hatmi AMS, **Ahmed SA**, Verweij PE, Kang Y, de Hoog S. (2019). A Comparison of Isolation Methods for Black Fungi Degrading Aromatic Toxins. *Mycopathologia*. 184(5):653-660. doi: 10.1007/s11046-019-00382-3.

Al-Hatmi AMS, Sandoval-Denis M, Nabet C, **Ahmed SA**, Demar M, Normand AC, de Hoog GS. (2019). *Fusarium volatile*, a new potential pathogen from a human respiratory sample. *Fungal Syst Evol.* 4:171-181. doi: 10.3114/fuse.2019.04.09.

Su H, Packeu A, **Ahmed SA**, Al-Hatmi AMS, Blechert O, İlkit M, Hagen F, Gräser Y, Liu W, Deng S, Hendrickx M, Xu J, Zhu M, de Hoog S. (2019). Species Distinction in the *Trichophyton rubrum* Complex. *J Clin Microbiol.* 57(9):e00352-19. doi: 10.1128/JCM.00352-19. PMID: 31189587; PMCID: PMC6711931.

Šišić A, Al-Hatmi AMS, Baćanović-Šišić J, **Ahmed SA**, Dennenmoser D, de Hoog GS, Finckh MR. (2018). Two new species of the *Fusarium solani* species complex isolated from compost and *hibiscus* (*Hibiscus* sp.). *Antonie Van Leeuwenhoek* 111:1785-1805. doi: 10.1007/s10482-018-1068-y.

Šišić A, Baćanović-Šišić J, Al-Hatmi AMS, Karlovsky P, **Ahmed SA**, Maier W, de Hoog GS, Finckh MR. (2018). The 'forma specialis' issue in *Fusarium*: A case study in *Fusarium solani* f. sp. pisi. *Scientific Reports* 8: 1252. doi: 10.1038/s41598-018-19779-z.

Ming C, Huang J, Wang Y, Lv Q, Zhou B, Liu T, Cao Y, van den Ende BG, Al-Hatmi AMS, **Ahmed SA** et al. (2018). Revision of the medically relevant species of the yeast genus *Diutina*. *Medical mycology*. doi: 10.1093/mmy/myy001.

Lim W, Eadie K, Horst-Kreft D, **Ahmed SA**, Fahal AH, van de Sande WWJ. (2018). VNTR confirms the heterogeneity of *Madurella mycetomatis* and is a promising typing tool for this mycetoma causing agent. *Medical Mycology*. doi: 10.1093/mmy/myy055.

Al-Hatmi AMS, **Ahmed SA**, van Diepeningen AD, Drogari-Apiranthitou M, Verweij PE, Meis JF, de Hoog GS. (2018). *Fusarium metavorans* sp. nov.: The frequent opportunist 'FSSC6'. *Medical Mycology* 56: 144-152. doi: 10.1093/mmy/myx107.

Ahmed SA, González GM, Tirado-Sánchez A, Moreno-López LM, de Hoog S, Bonifaz A. (2018). *Nigrograna mackinnonii*, not *Trematosphaeria grisea* (syn., *Madurella grisea*), is the main agent of black grain eumycetoma in Latin America. *journal of clinical microbiology* 56. pii: e01723-17. doi: 10.1128/JCM.01723-17.

van de Sande W, Fahal A, **Ahmed SA**, Serrano JA, Bonifaz A, Zijlstra E. (2018). Closing the mycetoma knowledge gap. *Medical Mycology* 56:153-164. doi: 10.1093/mmy/myx061.

Moussa TA A; Kadasa NMS, Al Zahrani HS, **Ahmed SA**; Feng P, van den Ende AHGG, Zhang Y, Kano R, Li F, Li S, Song Y, Dong B, Rossato L, Dolatabadi S, de Hoog S. (2017). Origin and distribution of *Sporothrix globosa* causing sapronoses in Asia. J Med Microbiol 66:560-569.

Moussa TA, Al Zharani HS, Kadasa NM, **Ahmed SA**, de Hoog GS, AlHatmi AM (2017) Two new species of *Fusarium fujikuroi* species complex isolated from the natural environment. Antonie Van Leeuwenhoek 110:819-832.

Al-Hatmi AM, Bonifaz A, Tirado-Sánchez A, Meis JF, de Hoog GS, **Ahmed SA** (2017) Fusarium species causing eumycetoma: Report of two cases and comprehensive review of the literature. Mycoses 60:204-212.

Ahmed SA, Hofmüller W, Seibold M, de Hoog GS, Harak H, Tammer I, van Diepeningen AD, Behrens-Baumann W (2017) *Tintelnotia*, a new genus in *Phaeosphaeriaceae* harbouring agents of cornea and nail infections in humans. Mycoses 60:244-253

Guégan S, Garcia-Hermoso D, X Sitbon K, **Ahmed S**, Moguelet P, Dromer F, Lortholary F (2016) Ten-Year Experience of Cutaneous and/or Subcutaneous Infections Due to Coelomycetes in France. Open Forum Infect Dis. 2016;3:ofw106.

Bustamante B, **Ahmed SA**, De Hoog GS, Seas C, Van De Sande WW (2016) *Phaeoacremonium sphinctrophorum* as a Novel Agent of Eumycetoma. JAMA Dermatol. 152:1063-5.

Ahmed SA, Abbas MA, Jouvion G, Al-Hatmi AMS, de Hoog GS, Kolecka A, Mahgoub ES (2015) Seventeen years of subcutaneous infection by *Aspergillus flavus*; eumycetoma confirmed by immunohistochemistry. Mycoses 58:728–734.

Ahmed SA, van de Sande WWJ, Desnos-Ollivier M, Fahal AH, Mhmoud NA, de Hoog GS (2015) Application of isothermal amplification techniques for the identification of *Madurella mycetomatis*, the prevalent agent of human mycetoma. Journal of Clinical Microbiology. 53:3280–3285.

Ahmed SA, Desbois N, Quist D, Miossec C, Atoche C, Bonifaz A, de Hoog GS (2015) Phaeohyphomycosis caused by a novel species: *Pseudochaetosphaeronema martinelli*. Journal of Clinical Microbiology 53:2927–2934.

Ahmed SA, Khan Z, Wang X, Moussa TAA, Al-Zahrani HS, Almaghrabi OA, Sutton DA, Ahmad S, Groenewald JZ, Alastruey-Izquierdo A, van Diepeningen A, Menken SBJ, Najafzadeh MJ, Crous PW, Cornely O, Hamprecht A, Vehreschild MJGT, Kindo AJ, de Hoog GS (2015) Chaetomium-like fungi causing opportunistic infections in humans: a possible role for extremotolerance. Fungal diversity 76: 11–26.

Krzyściak P, Al-Hatmi AMS, **Ahmed SA**, Macura AB (2015) Rare zoonotic infection with *Microsporium persicolor* with literature review. Mycoses 58:511–515.

van Diepeningen AD, Feng P, **Ahmed S**, Sudhadham M, Bunyaratavej S, de Hoog GS (2015) Spectrum of *Fusarium* infections in tropical dermatology evidenced by multilocus sequencing typing diagnostics. Mycoses 58:48–57.

Ahmed SA, Kloezen W, Fahal AH, de Hoog GS, van de Sande WJ (2015) *In vitro* interaction of currently used azoles with terbinafine against *Madurella mycetomatis*. Antimicrobial Agents and Chemotherapy 59:1373–1374.

Ahmed SA, de Hoog GS, Stevens DA, Fahal AH and van de Sande WJ (2015) *In vitro* antifungal susceptibility of coelomycete agents of black grain eumycetoma to eight antifungals. Medical Mycology 53:295–230.

Lackner M, de Hoog GS, Yang L, Ferriera Moreno L, **Ahmed SA**, Andreas F, Kaltseis J, Nagl M, Lass-Flörl C, Risslegger B, Rambach G, Speth C, Robert V, Buzina W, Chen S, Bouchara J, Cano-Lira JF, Guarro J, Gené J, Fernández Silva F. 2014. Proposed nomenclature for *Pseudallescheria*, *Scedosporium* and related genera. Fungal Divers 67:1–10

Ahmed SA, Kloezen W, Duncanson F, Zijlstra EE, de Hoog GS, Fahal AH, van de Sande WWJ (2014) *Madurella mycetomatis* is highly susceptible to ravuconazole. PLoS Neglected Tropical Diseases 8:e2942.

Ahmed SA, van den Ende BHGG, Fahal AH, van de Sande WWJ, de Hoog GS (2014) Rapid identification of black grain eumycetoma causative agents using rolling circle amplification. PLoS Neglected Tropical Diseases 8:e3368.

Ahmed SA, Stevens DA, van de Sande WW, Meis JF, de Hoog GS (2014) *Roussioella percutanea*, a novel opportunistic pathogen causing subcutaneous mycoses. Medical Mycology 52:689-698.

Ahmed SA, van de Sande WJ, Stevens DA, Fahal AH, van Diepeningen A, MenkenSBJ, and de Hoog GS (2014) Revision of agents of black-grain eumycetoma in the order *Pleosporales*. Persoonia 33:141–154.

de Hoog GS, **Ahmed SA**, Najafzadeh MJ, Sutton DA, Keisari MS, Fahal AH, Eberhardt U, Verkleij GJ, Xin L, Stielow B, van de Sande WW (2013) Phylogenetic findings suggest possible new habitat and routes of infection of human eumycetoma. PLoS Neglected Tropical Diseases 7:e2229.

Feng P, Najafzadeh MJ, Sun J, **Ahmed S**, Xi L, de Hoog GS, Lai W, Lu C, Klaassen CH, Meis JF (2012) *In vitro* activities of nine antifungal drugs against 81 *Phialophora* and *Cyphellophora* isolates. Antimicrob Agents Chemother 56:6044–6047.

Mhmoud NA, **Ahmed SA**, Fahal AH, de Hoog GS, Gerrits van den Ende AH, van de Sande WW (2012) *Pleurostomophora ochracea*, a novel agent of human eumycetoma with yellow grains. Journal of Clinical Microbiology 50:2987–2994.

Books and book chapters

de Hoog GS, Guarro J, Gené J, **Ahmed S**, Al-Hatmi AMS, Figueras MJ & Vitale RG (2020) Atlas of Clinical Fungi, 4th edition. Hilversum.

Ahmed SA, van de Sande WWJ, Bonifaz A, de Hoog GS. (2019). Subcutaneous and secondary cutaneous fungal infections. Cutaneous Fungal Infections. In: Sarma N, ed Skin: Clinical Dermatology. New Delhi, India: Jaypee Brothers Medical Publishers.

de Hoog GS, **Ahmed SA**, Danesi P, Guillot J, Gräser Y. (2018) Distribution of Pathogens and Outbreak Fungi in the Fungal Kingdom. In: Seyedmousavi S, de Hoog GS, Guillot J, Verweij PE ed. Emerging and Epizootic Fungal Infections in Animals. Springer, Cham. doi: 10.1007/978-3-319-72093-7.

Ahmed SA, van de Sande WWJ, Bonifaz A, de Hoog GS. (2019). Fungi Causing Eumycotic Mycetoma. In: Carroll KC, Pfaller MA, Landry ML, McAdam AJ, Patel R, Richter SS, Warnock DW. (ed), Manual of Clinical Microbiology. 12th Edition.

GRANTS AND AWARDS

Young ISHAM travel grant, Melbourne, Australia, May 2015.

Royal Netherlands Academy of Arts Sciences (KNAW), The academy ecology fund, 2014.

Best poster award, ISHAM (International society of Human and Animal Mycology), 2012 Clinical Mycology, 18th ISHAM congress, Berlin, Germany, June 2012.

PhD scholarship grant from IBED; Institute of Biodiversity and Ecosystem Dynamics, 2011.

Excellent academic performance award, Faculty of Medical Laboratory Sciences, University of Khartoum 2001.

Excellent academic performance award, Faculty of Medical Laboratory Sciences, University of Khartoum, 2003.

TEACHING EXPERIENCE

Oct. 2018 Lectures and Lab. teaching, Medical Mycology Course, Radboud UMC, Nijmegen, The Netherlands.

Oct. 2016 Lectures and Lab. teaching, Medical Mycology Course, Westerdijk Fungal Biodiversity Institute. Netherlands

Nov. 2016 Lectures and Lab. teaching, Medical Mycology Course, Westerdijk Fungal Biodiversity Institute. Netherlands

March 2010 – present Lecturer of medical microbiology (mycology), University of Khartoum, Medical microbiology Sudan

Nov. 2008 – Aug. 2011 Teaching assistant, Microbiology Lab. (bacteriology, mycology, and virology) Ibn Sina National College for Medical Studies. Sudan

Apr. 2005 – Apr. 2006 Teaching assistant, Microbiology Lab. (bacteriology, mycology, and virology) Sharg Elneil College. Sudan

CONFERENCES, WORKSHOPS AND COURSES

9th Advances Against Aspergillosis and Mucormycosis, Palazzo dei Congressi Lugano, Lugano, Switzerland 27 – 29 February 2020

20th Congress of the International Society for Human and Animal Mycology, Amsterdam, The Netherlands. (Jun. 2018, invited speaker)

Successful Grant Writing Workshop. Utrecht, The Netherlands. (Mar. 2018)

Fungi and Global Challenges. Amsterdam, The Netherlands. (Apr. 2016)

26th European Congress of Clinical Microbiology and Infectious Diseases. Amsterdam, The Netherlands (Apr. 2016, poster presentation)

19th International Society for Human and Animal Mycology Congress, Melbourne, Australia (May, 2015, oral presentation)

Molecular diagnosis of mycetoma workshop, Mycetoma Research Centre, Khartoum, Sudan (Feb. 2015, organizer)

The Sixth Annual Post-Graduate Studies & Scientific Research Conference, Khartoum, Sudan (Feb. 2015, oral presentation)

CBS Spring Symposium 2014: Genera and Genomes. Amsterdam, The Netherlands (Apr. 2014)

Diversity and Barcoding of Medical Fungi: Novel Achievements and Masterclass. Amsterdam, The Netherlands (Apr. 2014)

Medical Mycology Course, Institut Pasteur, Paris, France (3 – 28 Mar. 2014).

The 1st International Conference of Medical Laboratory, Khartoum, Sudan (Dec. 2013, oral presentation)

28th Meeting of the Fusarium working group of the Koninklijke Nederlandse Plantenziektenkundige Vereniging, Utrecht, The Netherlands (oct. 2013).

The future of Barcoding, getting closer or drifting further away from clinical practice. Utrecht, The Netherlands (Apr. 2013, oral presentation).

1 Fungus: Which gene, Amsterdam, The Netherlands (Apr. 2013).

Emerging Zygomycetes, a new clinical problem in clinical lab, Utrecht, The Netherlands (Apr. 2013).

Netherlands Society for Medical Mycology (NVMY) Focus: Epidemiology and Environmental Sources of Infection (Dec. 2012, oral presentation)

Current Trends in Phylogenetics Training Course, Wageningen, The Netherlands (Oct. 2012).

18th ISHAM congress, International society of human and animal mycology, Berlin, Germany (Jun. 2012, poster presentation).

1 Fungus: Which name, Amsterdam, The Netherlands (Apr. 2012).

Graduate Studies and Scientific Research Conference, University of Khartoum, Khartoum, Sudan (2010, Organizer & poster presentation).

The 17th Congress of the International Society for Human and Animal Mycology, ISHAM 2009 Satellite Symposia, Beijing, China. (Jun. 2009)

International Medical Mycology Course, Beijing, China. (Jun. 2009)

Mycetoma International week, Mycetoma Research Centre, Soba University Hospital, University of Khartoum, Khartoum, Sudan (Jan. 2009, oral presentation)

The Third Scientific Conference of the Sudanese Society of Clinical Biology, Khartoum, Sudan. (Nov. 2008)

The First Scientific Conference of the Sudanese Society of Clinical Biology, Khartoum, Sudan. (Nov. 2006)

Educational Preparation Course, Staff Development Centre, University of Khartoum, Khartoum, Sudan (Apr. 2008)

Scientific Writing Training Course, Educational Development Centre for Medical and Health Professions, University of Khartoum, Khartoum, Sudan (May 2007)

Molecular Biology Training Course, Institute of Endemic Diseases, University of Khartoum, Khartoum, Sudan (2007 & 2008).

Safety in the Clinical Laboratories Work Shop, Khartoum, Sudan. (Nov. 2006)

Quality Assurance in the Clinical Laboratories Work Shop, Khartoum, Sudan. (November 2006)

Molecular Diagnosis of Leishmania Infection Work Shop, Khartoum, Sudan. (Nov. 2006)

Mycology Laboratory Training Course, Faculty of Medicine, University of Khartoum, Khartoum, Sudan (Dec 2004).

National Health Laboratory, Bacteriology and Virology Training Course, Khartoum, Sudan (2003).

Suba University Hospital Training Course (Microbiology- Immunology- Parasitology- Histopathology- Clinical Chemistry- Haematology), Khartoum, Sudan (2002 & 2003).

PROFESSIONAL MEMBERSHIP

Eumycetoma working group (2009 – present)

International Society of Human and Animal Mycology (2012 – present)

REFERENCES

Prof. G. Sybren de Hoog. Westerdijk Fungal Biodiversity Institute, Utrecht, The Netherlands. S. hoog@westerdijkinstitut.nl

Prof. Ahmed Hassan Fahal. Mycetoma Research Centre, Khartoum, Sudan. ahfahal@hotmail.com.

Dr. Wendy W. J. van de sande. Erasmus M C, Rotterdam, The Netherlands. w.vandesande@erasmusmc.nl.