



Personal Information

Email: amelia.barber@uni-jena.de
Phone: +49 03641 9-49793
Web: <https://barber-lab.com>

Research Interests

Antifungal resistance
Phylo- and population genomics of fungal pathogens
Evolution and pathoecology of microbial virulence

Education

August 2016 **PhD**, Microbiology and Immunology
University of Utah, Salt Lake City, UT (USA)
"Zebrafish reveal variable effects of Escherichia coli during sepsis"

December 2006 **BS**, Medical Microbiology & Immunology; Women's Studies
University of Wisconsin-Madison, Madison, WI (USA)

Academic Positions

2022 - present **Independent Junior Group Leader.**
Institute for Microbiology, Friedrich Schiller University, Jena, Germany.

2020 - 2022 **Junior Group Leader.** Integrated into the group of Gianni Panagiotou.
Leibniz-HKI, Jena, Germany.

2016 - 2020 **Postdoctoral Fellow**, Research group of Oliver Kurzai.
Leibniz-HKI and University of Würzburg, Jena and Würzburg, Germany.

2010 - 2016 **Doctoral Researcher**, Research group of Matthew A. Mulvey.
University of Utah, Salt Lake City, UT, USA.

2007 - 2009 **Associate Research Specialist**, Research group of Clive N. Svendsen.
University of Wisconsin-Madison, Madison, WI, USA.

Funding

2024 - 2027 Leibniz Collaborative Excellence. Fungal RNA Transmission Impacting Human Epigenome Regulation.

2024 - 2026 FSU ProChance^{career}. Functionalizing the *Aspergillus fumigatus* pangenome.

2023 Balance of the Microverse Flexible Funds.

2020 - 2026 Junior research group funded by the DFG Excellence Cluster Balance of the Microverse; UK MRC position declined.

2012 - 2014 T-32 Microbial Pathogenesis Doctoral Training Grant funded by NIAID.

Five Selected Publications

Mirhakkak MH, Chen X, Sae-Ong T, Xu L, Heinekamp T, Kurzai O, **Barber AE**, Brakhage AA, Boutin S, Schäuble S, Panagiotou G. A pangenome-scale metabolic model of 252 *Aspergillus fumigatus* strains reveals growth dependencies from the lung microbiome. Nat Comm. 2021.

AE⁺, Sae-Ong T⁺, Kang K, Li J, Walther G, Panagiotou G, Kurzai O. *Aspergillus fumigatus* pangenome analysis identifies genetic variants associated with human infection. Nat Microbiol. 2021. **equal contribution*

Barber AE⁺⁺, Riedel J⁺, Sae-Ong T, Kang K, Brabetz W, Panagiotou G, Kurzai O^{*}. Effects of Agricultural Fungicide Use on *Aspergillus fumigatus* Abundance, Antifungal Susceptibility, and Population Structure. mBio. 2020. **equal contribution; *corresponding author*

Hamprecht A, **Barber AE**, Mellinghoff SC, Thelen P, Walther G, Yu Y, et al. *Candida auris* in Germany and Previous Exposure to Foreign Healthcare. Emerg Infect Dis. 2019.

Barber AE, Fleming BA, Mulvey MA. Similarly Lethal Strains of Extraintestinal Pathogenic *Escherichia coli* Trigger Markedly Diverse Host Responses in a Zebrafish Model of Sepsis. mSphere. 2016. *Featured on the ASM Podcast "This Week in Microbiology," episode 126.*

Preprints and Submitted Manuscripts

Brassington P, Klefisch FR, Graf B, Pfüller R, Kurzai O, Walther G^{*}, **Barber AE**^{*}. Genomic reconstruction of an azole-resistant *Candida parapsilosis* outbreak and the creation of a multilocus sequence typing scheme. medRxiv. 2024. **corresponding author*

Loos D, **Pereira ADCF**, Dutilh BE, **Barber AE**^{*}, Panagiotou G^{*}. A Global Survey of Host, Aquatic, and Soil Microbiomes Reveals Ecological Properties and Genomic Features Shared Between Bacterial and Fungal Generalists. bioRxiv. 2022. **corresponding author*

Full publication list available at: <https://scholar.google.com/citations?user=COgbwJ4AAAAJ>

Honors and Awards

2022	Publication Prize, German Speaking Mycological Society
2021-22	Leibniz Mentoring Program
2021	Medac Research Prize
2018	International Society for Human and Animal Mycology Attendance Grant
2017	European Confederation of Medical Mycology Young Investigator Award
2015	ASM Richard and Mary Finkelstein Travel Award
2015	University of Utah Graduate School Travel Award
2012	University of Utah Alma Mater Travel Award

Supervision

Since 2021	Postdocs: <i>L. Fabre</i> PhD students: <i>P. Brassington, A. Pereira, M. Perrier</i> Masters student: <i>H. Lin</i> Visiting researchers: <i>A. Ryan, J. Adeoye, S. Cendon</i>
2012 - 2022	Co-supervision of: PhD students: <i>T. Sae-Ong, D. Loos</i> // Masters student: <i>A. Lange</i> // Bachelors students: <i>A. Tran, K. Nelson</i>

Teaching

2022 - present	Lecture and practical modules, Microbiology and Molecular Biology. Friedrich Schiller University.
2024	Invited lecture, Medical Mycology course run by Uppsala University and Swedish University of Agricultural Sciences
2014 - 2015	Instructor, Initiative to Bring Science Programs to the Incarcerated (INSPIRE) Utah State Prison and Salt Lake County Jail
2014	Instructor, Mechanisms of Bacterial Pathogenesis, University of Utah
2013	Teaching Assistant, Mechanisms of Bacterial Pathogenesis, University of Utah
2011	Teaching Assistant, Introduction to Medical Microbiology, University of Utah

Academic Service and Society Memberships

Peer reviewer for mBio, PLoS Pathogens, Nature Microbiology, Microbial Genomics, Antimicrobial Agents and Chemotherapy, Environmental Microbiology, Infection and Immunity, Journal of Fungi, and PLoS One.

External grant reviewer for UKRI and BSF.

Since 2023	Elected member, Aspergillus Genomes Research Policy Committee
Since 2021	Member, German Speaking Mycological Society (DMyKG)
Since 2020	Invited member, Scientific Network for Antifungal Resistance (SN-AFR)
Since 2020	National Research Data Infrastructure NFDI4Microbiota representative for the Microverse Cluster and the Leibniz-HKI
Since 2018	Member, International Society for Human and Animal Mycology (ISHAM)
2013 - 2016	Member, American Society of Microbiology (ASM)
2012 - 2015	University of Utah Academic Misconduct Committee in Graduate Biosciences
2011	University of Utah Department of Pathology Faculty Retention and Promotion Committee

Selected Presentations

2023	University of Exeter CMM MycoTalks. <i>Virtual</i> .
2023	University of Neuchâtel. <i>Neuchâtel, CH</i> .
2023	University of Gießen. <i>Gießen, DE</i> .
2023	Jena Microbiome Meeting. <i>Jena, DE</i> .
2023	Reinhardtsbrunn Symposium. <i>Freidrichroda, DE</i> .
2023	European Conference on Fungal Genetics. <i>Innsbruck, AT</i> .
2022	Mykosen am Mittwoch. <i>Virtual</i> .
2022	Microbial Communities: Current Approaches and Open Challenges. <i>Cambridge, UK</i>
2022	FEBS Host-Pathogen Interactions in Human Fungal Pathogens. <i>La-Colle-sur-Loup, France</i> .
2022	University of Basel Biozentrum. <i>Virtual</i> .
2022	EMBL The Next Generation of Infection Biology. <i>Virtual</i> .
2022	Advances Against Aspergillosis and Mucormycosis. <i>Virtual</i> .
2021	Scientific Conference of the German-speaking Mycological Society. <i>Virtual</i> .
2021	LIFE Mini-symposium. Friedrich Schiller University. Jena, Germany. <i>Virtual</i> .
2020	Medical Mycology Trainee Seminar Series. <i>Virtual</i> .
2020	European Conference on Fungal Genetics. <i>Rome, Italy</i> .
2019	Fungal Genetics Conference. <i>Pacific Grove, CA, USA</i> .
2017	Visions for Infection Control: InfectControl Strategy Conference. <i>Jena, Germany</i> .
2015	ASM Microbe. <i>New Orleans, LA, USA</i> .

Outreach

2019	Long Night of Science Jena
2019	Skype a Scientist
2018	World Sepsis Day
2017	Long Night of Science Jena
2014	McMillian Elementary School
2014	University of Utah Educational Outreach Program
2012 – 2013	Explore Utah Science