Dr. Mark Gresnigt

Adaptive Pathogenicity Strategies · Head +49 3641 532-1305 mark.gresnigt@leibniz-hki.de

Curriculum vitae

Main Research Areas

- Infection biology of human pathogenic fungi *(Candida albicans)*
- Immunology of fungal infections
- Host-pathogen interactions
- Fungal adaptation to the host

Professional Career

Since 05/2020	Junior Research Group Leader, Leibniz Institute of Natural Product Research and Infection Biology - Hans Knoell Institute, Adaptive Pathogenicity Strategies
05/2018-05/2020	Alexander von Humboldt Foundation Postdoctoral Fellowship, Leibniz Institute of Natural Product Research and Infection Biology - Hans Knoell Institute, Dept. Microbial Pathogenicity Mechanisms
03/2018-04/2018	Language Course German, Dresden, Germany
08/2015-03/2018	Postdoctoral researcher, Radboud University Medical Center, Department of Internal medicine, Nijmegen Institute for Infectious Diseases. Project: The development of novel immunomodulatory strategies for disseminated fungal infections
10/2010-05/2015	Phd, Radboud University Nijmegen Medical Center, department of internal medicine, Nijmegen, The Netherlands. Project: Pattern recognition and cytokine signalling pathways in the host defence against *Aspergillus fumigatus*
02/2008-08/2010	M.Sc. Medical Biology, Radboud University, Nijmegen, The Netherlands
07/2003-07/2007	B.Sc. Biology and Medical Laboratory Research, Saxion University of Applied Sciences, Enschede, The Netherlands

Awards · Appointments · Scientific Activities

2021	Research award of the German speaking society for Mycology (DMykG)
2021	Science Award Life Sciences and Physics 2021 Beutenberg Campus e.V. Jena
Since 2021	Member and PI of the DFG SFB/TR 124 programme "Pathogenic fungi and their human host: Networks of interaction – FungiNet'"
Since 2020	DFG Emmy Noether grant
2020	Journal of Fungi Travel Award
2020	Co-Organizer of the FEBS advanced practical course “State-of-the-art infection models for human pathogenic fungi” in Jena, Germany
2019	PLoS Pathogens Postdoctoral Poster Award, Advanced lecture course on Human Fungal Pathogens
2019	ESCMID Research Grant 2019
2019	Co-organizer of the winter school of the FunHoMic Marie Curie International Training Network

2018-2021	Two publication awards of the Deutschsprachigen Mykologischen Gesellschaft (DMykG; as co-author)
2018	Humboldt Research Fellowship for Postdoctoral Researchers
2018	Golden pipette award by the Laboratory for Experimental Internal Medicine Radboud University Nijmegen Medical center
2016	3rd prize for best thesis by the Radboud institute for molecular life sciences (RIMLS)
2015	Van Beckum thesis Award for best PhD thesis in the field of immunology by the Dutch society for Immunology (NVVI)
2015	Youth development Prize by the German speaking society for Mycology (DMykG)
Since 2014	Ad hoc reviewer for 19 journals eLife, PLoS Pathogens, mBio, Journal of Infectious Diseases, Frontiers Immunology, Cellular Microbiology, FEMS microbiology letters, Microbial Pathogenesis, Virulence, and others
2013	ALLFUN Investigators Award

Topics

Interactions with immune cells (MPM)

Adaptation to the host

In vitro infection models with physiological relevance

Immunology of Fungal Infections

Fungal-host-microbiota interactions

Publications

Alonso-Roman R, Mosig AS, Figge MT, Papenfort K, Eggeling C, Schacher FH, Hube B, Gresnigt MS (2024) Organ-on-chip models for infectious disease research. *Nat Microbiol* 9(4), 891-904.

Details

PubMed OPEN ACCESS PAPER

Jaeger M, Dietschmann A, Austermeier S, Dinçer S, Porschitz P, Vornholz L, Maas RJA, Sprenkeler EGG, Ruland J, Wirtz S, Azam T, Joosten LAB, Hube B, Netea MG, Dinarello CA, Gresnigt MS (2024) Alpha1-antitrypsin impacts innate host-pathogen interactions with *Candida albicans* by stimulating fungal filamentation. *Virulence* , 2333367.

Details

PubMed OPEN ACCESS PAPER

Kaden T[*], Alonso-Roman R[*], Akbarimoghaddam P[*], Mosig AS, Graf K, Raasch M, Hoffmann B, Figge MT[#], Hube B[#], Gresnigt MS[#] (2024) Modeling of intravenous caspofungin administration using an intestine-on-chip reveals altered *Candida albicans* microcolonies and pathogenicity. *Biomaterials* 307, 122525.

Details

Schimanski J, Gresnigt MS, Brunner E, Werz O, Hube B, Garscha U (2024) Hyphal-associated protein expression is crucial for *Candida albicans*-induced eicosanoid biosynthesis in immune cells. *Eur J Immunol* 54(3), e2350743.

Details

Valentine M[*], Rudolph P[*], Dietschmann A, Tsavou A, Mogavero S, Lee S, Priest EL, Zhurgenbayeva G, Jablonowski N, Timme S, Eggeling C, Allert S, Dolk E, Naglik JR, Figge MT, Gresnigt MS[*#], Hube B[*#] (2024) Nanobody-mediated neutralization of candidalysin prevents epithelial damage and inflammatory responses that drive vulvovaginal candidiasis pathogenesis. *mBio* 15(3), e0340923.

Details

SUPPL

Chao YY, Puhach A, Frieser D, Arunkumar M, Lehner L, Seeholzer T, Garcia-Lopez A, van der Wal M, Fibi-Smetana S, Dietschmann A, Sommermann T, Ćiković T, Taher L, Gresnigt MS, Vastert SJ, van Wijk F, Panagiotou G, Krappmann D, Groß O, Zielinski CE (2023) Human TH17 cells engage gasdermin E pores to release IL-1α on NLRP3 inflammasome activation. *Nat Immunol* 24(2), 295-308.

Details

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Lange T, Kasper L, Gresnigt MS, Brunke S, Hube B (2023) "Under Pressure" - How fungi evade, exploit, and modulate cells of the innate immune system. *Semin Immunol* 66, 101738. (Review)

Details

PubMed
OPEN ACCESS
PAPER

Alonso-Roman R, Last A, Mirhakkak MH, Sprague JL, Möller L, Großmann P, Graf K, Gratz R, Mogavero S, Vylkova S, Panagiotou G, Schäuble S, Hube B, Gresnigt MS (2022) *Lactobacillus rhamnosus* colonisation antagonizes *Candida albicans* by forcing metabolic adaptations that compromise pathogenicity. *Nat Commun* 13(1), 3192.

Details

Matzaraki V, Beno A, Jaeger M, Gresnigt MS, Keur N, Boahen C, Cunha C, Gonçalves SM, Leite L, Lacerda JF, Campos A, van de Veerdonk FL, Joosten L, Netea MG, Carvalho A, Kumar V (2022) Genetic determinants of fungi-induced ROS production are associated with the risk of invasive pulmonary aspergillosis. *Redox Biol* 55, 102391.

Details

Pekmezovic M, Dietschmann A, Gresnigt MS (2022) Type I interferons during host-fungus interactions: Is antifungal immunity going viral? *PLOS Pathog* 18(8), e1010740.

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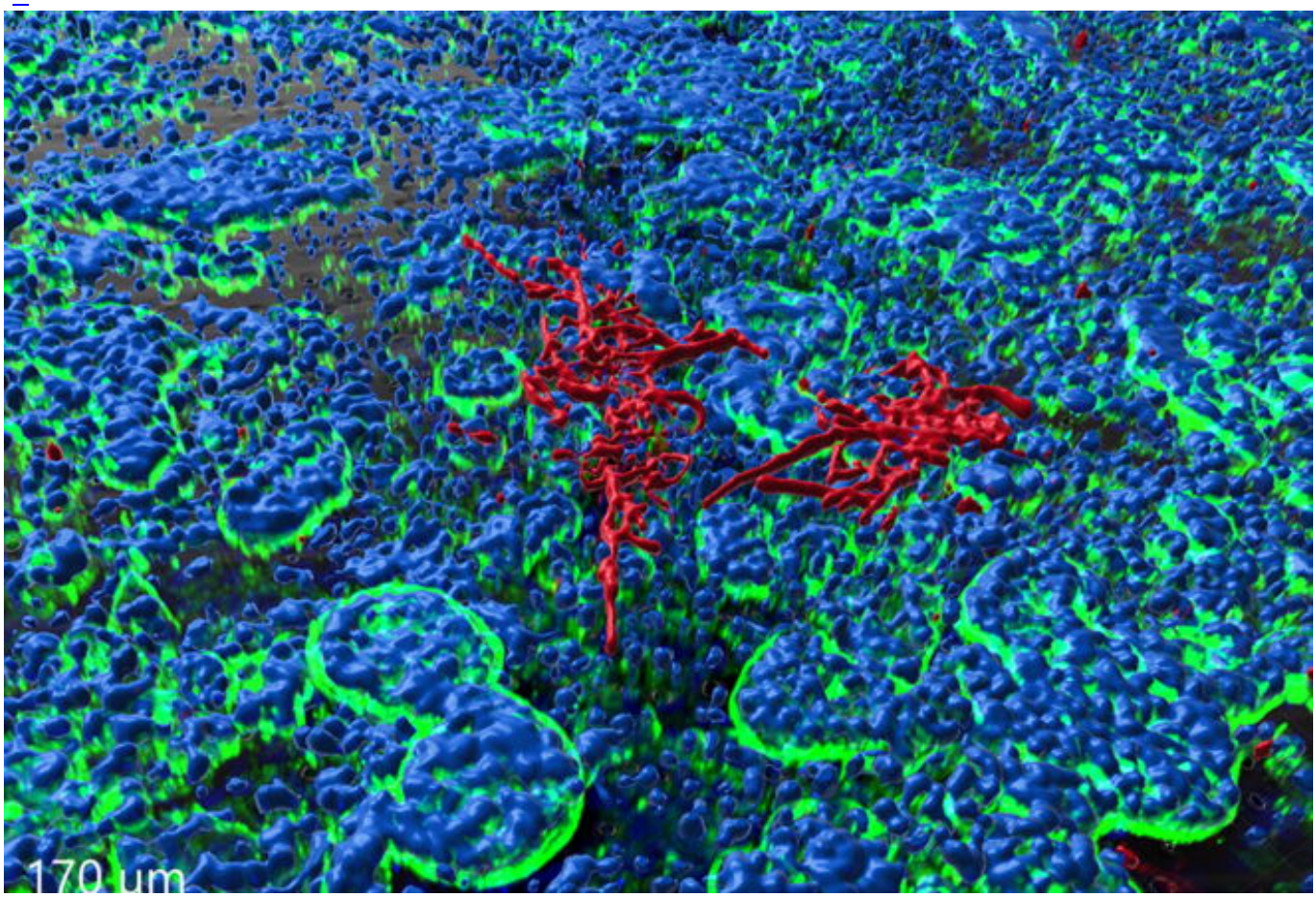
Publication list as PDF

News



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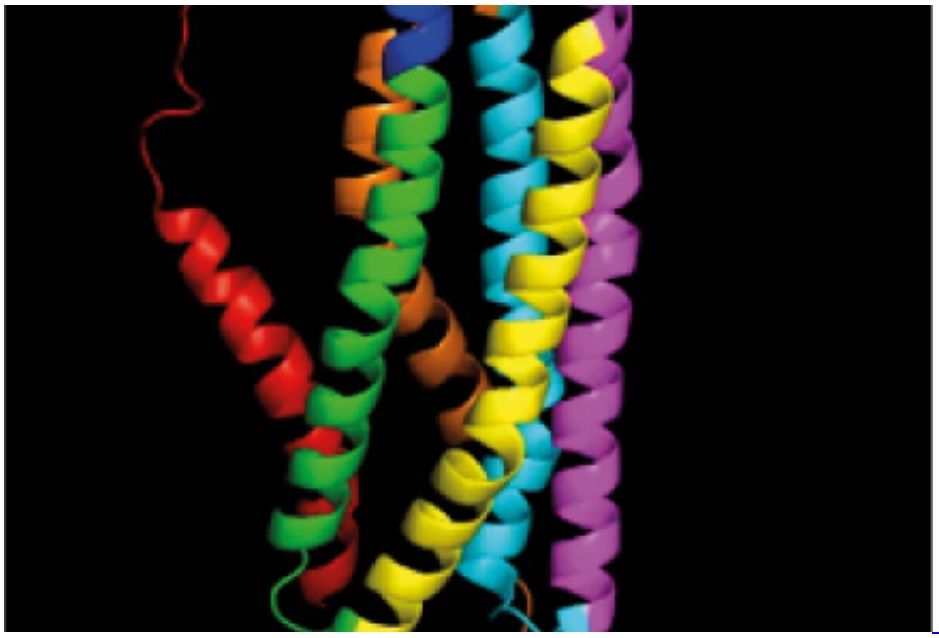

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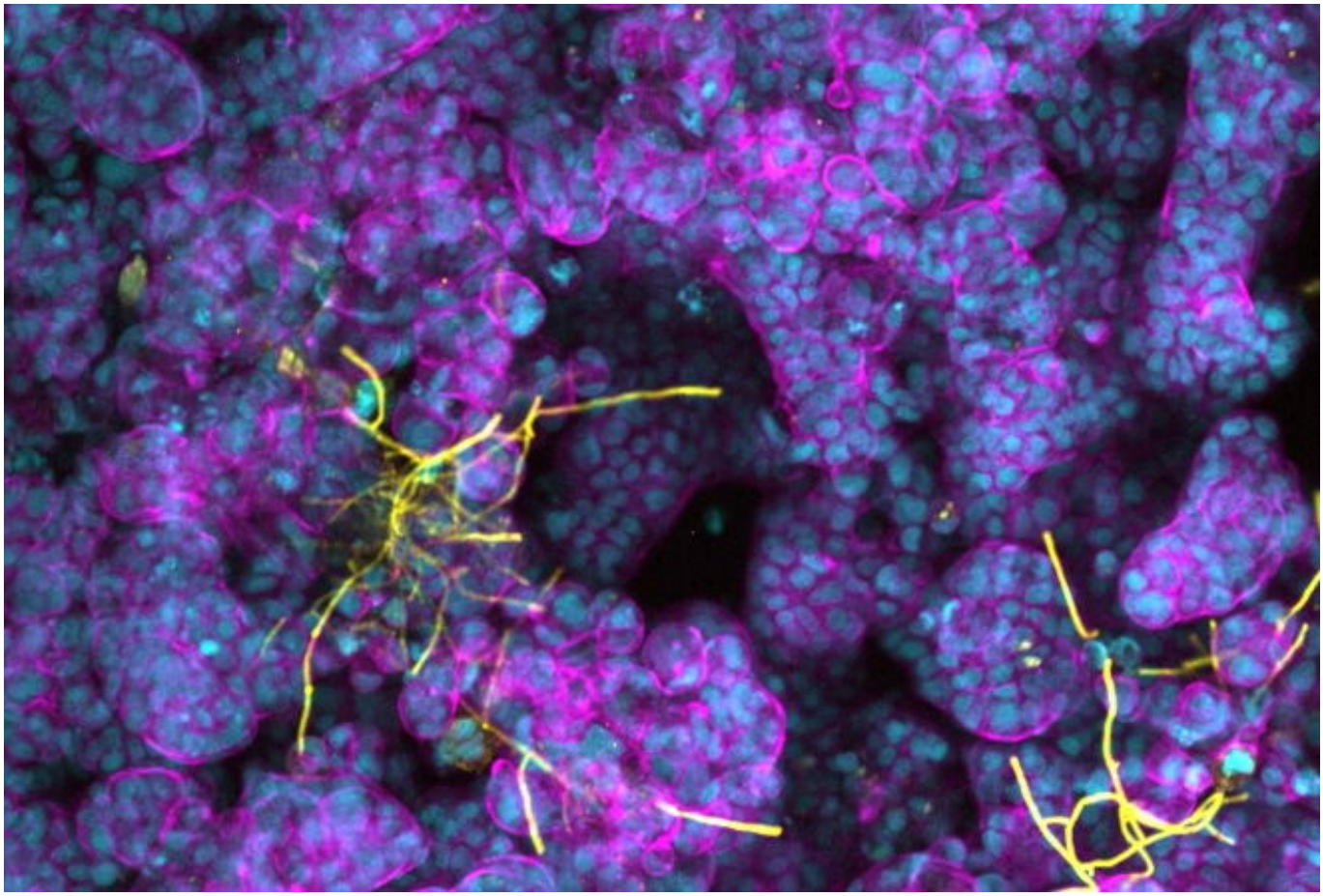

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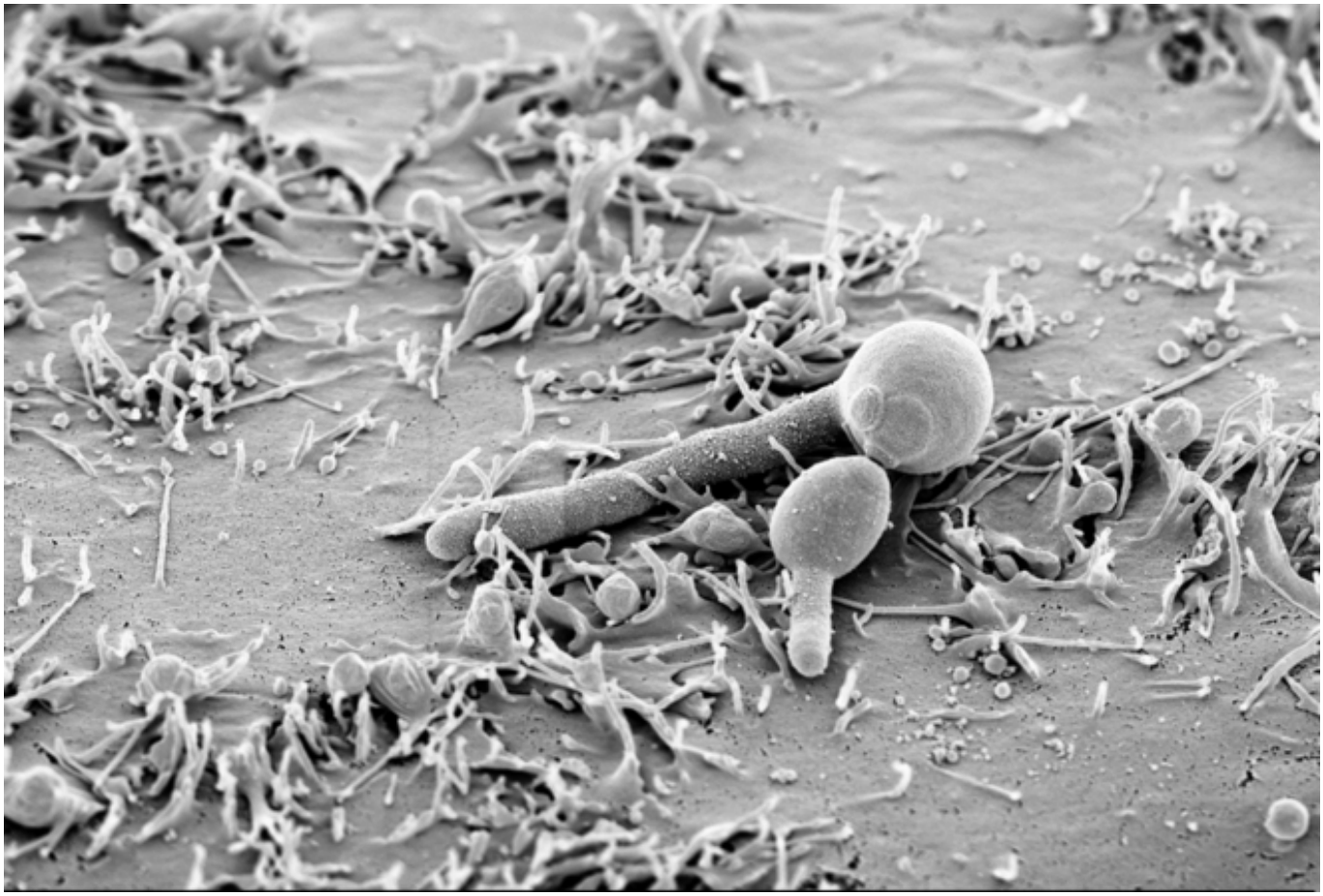

Cellular altruism New immune defense against Candida Infections identified. More information in the german press release.
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