



Bernhard Hube

[Microbial Pathogenicity Mechanisms](#) +49 3641 532-1401 bernhard.hube@leibniz-hki.de

Curriculum vitae

Main Research Areas

- Infection biology of human pathogenic fungi (*Candida albicans*, *C. glabrata*)
- Host-/pathogen-interactions
- Functional genomics and micro-evolution
- Infection-associated genes

Professional Career

Since 2007	Head, Dept. Microbial Pathogenicity Mechanisms, HKI Jena
Since 2006	Professor (W3), Chair in Microbial Pathogenicity, FSU Jena
2006-2007	Head of the division FG16 "Mycology", RKI Berlin
2000-2006	Lecturer in Microbiology, FU Berlin
2000-2006	Head of a research group, RKI Berlin
2000	Habilitation in Molecular Microbiology, University of Hamburg
1996-2000	Assistant Professor (C1), Applied Molecular Biology, University of Hamburg
1995-1996	Research Assistant, Applied Molecular Biology, University of Hamburg
1992-1995	Honour Research Fellow, EG- and DFG-funded, University of Aberdeen, United Kingdom
1991	Dr. rer. nat. in Microbiology, University of Göttingen
1986	Diploma in Biology, University of Göttingen, Germany

Awards · Appointments · Scientific Activities

Since 2020	Member and PI of the DFG priority program SPP 2225 Strategies of <i>Candida albicans</i> and <i>Candida glabrata</i> to exit from macrophages
Since 2020	Member and PI of the ANR/BMBF French-German project on antimicrobial resistance programme "Resistance to antibiotics, focusing on critical resistant bacteria from the WHO priority-1 list of pathogens, and resistance to antifungals" – "Antifungal Resistance: From Surveillance to Treatment" – AreST
Since 2019	Member and PI of the EU Host-Directed Medicine in invasive FUNgal infections (HDMFun) Horizon 2020; Better Health and care, economic growth and sustainable health systems) RIA
Since 2019	Member and PI of the Wellcome Trust Collaborative Award "Targeting a new kingdom: the nature and significance of Type VI secretion system-mediated anti-fungal activity"
Since 2019	Coordinator RA B Excellence Cluster "Balance of the Microverse" of the FSU
Since 2019	Member and Training Manager of the EU Marie Skłodowska-Curie Innovative Training Network (MC-ITN) "Deciphering the fungus-host-microbiota interplay to improve the management

2018-2020	of fungal infections – FunHoMic” Member of the Review Board (Fachkolleg 204) of the Deutsche Forschungsgemeinschaft, (DFG) 204 (Microbiology, Virology and Immunology)
2018	Member of the International Scientific Committee for the 20th Congress of the International Society for Human and Animal Mycology (ISHAM) 30 June - 4 July 2018 Amsterdam
2017-2020	Speaker and PI of Leibniz Campus “InfectoOptics - Combating infectious diseases with advanced optical methods”
2017	“Drug of the Year” Award of the Leibniz Association
2015-2022	Executive board member of the Centre for Innovation Competence (ZIK) Septomics
2015-2019	Member of the EU MC-ITN “From Omics to Patient: Improving Diagnostics of Pathogenic Yeasts – OPATHY”
2015-2018	Eight publication awards of the DMykG (Co- and Senior author)
2015-2018	Coordinator and PI of Infect-ERA Consortium “FunComPath”: From colonization to infection: dissection of the commensal-to-pathogen shift of <i>Candida albicans</i>
2013-2016	Member of the program committee ASM Candida and candidiasis meeting
2014	Main award (Hauptpreis) of DGHM
Since 2013	Member and Steering Committee of the Leibniz Research Alliance INFECTIONS'21/INFECTIONS
Since 2013	Member, PI and Steering Committee (until 2021) of DFG SFB/TR 124 programme "Pathogenic fungi and their human host: Networks of interaction – FungiNet"
2013-2017	Member of “International Project Advisory Board” of the Belgian network “MICRODEV – Role of developmental processes in the virulence of human pathogens: from molecular mechanisms to novel therapeutic targets”
Since 2013	Honorary member of Deutschsprachige Mykologische Gesellschaft (DMykG)
2013-2015	Co-chair, Gordon Conference “Immunology of Fungal Infections”
2013-2020	Organiser & Co-Organizer of FEBS advanced practical course “State-of-the-art infection models for human pathogenic fungi” (2013, 2016 and 2020) in Jena, Germany
2012-2015	“In house professorship”, Center for Sepsis Control and Care (CSCC), Integriertes Forschungs- und Behandlungszentrum (IFB), Jena
2012	Co-Chair for the ISHAM 2012 conference in

	Berlin
2011-2018	Member of DFG priority program SPP 1580: "Survival and proliferation of human pathogenic <i>Candida</i> species within phagocytes"
2011-2018	Scientific advisory board Wellcome Trust Strategic Award (WTSA) "Medical Mycology and Fungal Immunology", Aberdeen, UK
2011-2016	Leading Principal Investigator in the DFG DACH Programme, project: "Microevolution of pathogenic yeasts during interactions with the host immune system"
2011-2014	Member of the Internal Review Board (IRB) of the Center for Sepsis Control and Care (CSCC) in Jena, Germany
2011	Organisation of the international FINSysB research skills training workshop "State-of-the-art infection models"
Since 2011	Scientific advisory board Wellcome Trust Strategic Award (WTSA) "Medical Mycology and Fungal Immunology", University of Aberdeen, UK
Since 2010	Steering Committee, International Leibniz Research School for Microbial and Biomolecular Interactions (ILRS)
2010-2012	Co-chair of the programme and organisation committee "ISHAM 2012"
2009-2015	Vice President of the International Society for Human and Animal Mycology (ISHAM)
2009-2015	Member of the Scientific Advisory Board for of the next FEBS Advanced Lecture Course on Human Fungal Pathogens, La Colle-sur-Loup, France
2008	Fellowship award of the American Academy of Microbiology (AAM)
2008	Heinz-Maurer-Award (co-author)
Since 2007	PI at the International Leibniz Research School for Microbial and Biomolecular Interactions (ILRS)
Since 2007	PI at the excellence school Jena School for Microbial Communications (JSMC)
2007-2014	Member and PI of EU ERA-NET PathoGenoMics Network Program CandiCol
2005	Scientific committee "Interdisciplinary Forum on Candida and Candida Infections" in Göttingen
2005	Local scientific committee TIMM 2005 ("Trends in Medical Mycology") in Berlin
2004-2011	Member and PI of DFG priority program SPP 1160 "Colonisation and infection by human-pathogenic fungi"
2004-2006	Science advisory board of the "FEBS advanced course on Human Fungal Pathogens"
2003-2006	Head of the section "Eukaryotic Pathogens" of the DGHM

2003	Heinz Seeliger Award, Seeliger Foundation
2003	Becton Dickinson Award of the DGHM
2002-2003	Secretary of the section "Eukaryotic Pathogens" of the DGHM
2000-2013	Member of Marie Curie Research Training Networks of the European Union (FP5, FP6 and FP7)
Since 2000	Editorial Board / Associate Editor of mBio, Cellular Microbiology, FEMS Yeast Research, F1000, Current Opinion in Microbiology (Section Editor 2009, Editorial Board), Virulence Ad hoc Reviewer for >35 journals incl. Nature, Nature Communication, Nature Microbiology, Nature Reviews Microbiology, Proceeding of the National Academy of Science, PLoS Pathogens, Science Translational Medicine, Current Opinion in Microbiology, Antimicrobial Agents and Chemotherapy, Cellular Microbiology (<i>Highlighted Reviewer for Cellular Microbiology 2016</i>), and others Reviewer for Grant & Fellowship Applications for Health and Medical Research Fund China (HMRF), Health and Medical Research Fund (HMRF), Wiener Wissenschafts-, Forschungs- und Technologiefonds (WWTF), Swiss National Science foundation (SNF), UK-India Education and Research Initiative (UKIERI), i-Move (EU), Agence Nationale de la Recherche France (ANR), Robert Koch Institute (RKI), National Science Centre Poland (NSCP), Biotechnology and Biological Sciences Research Council (BBSRC), Deutsche Forschungsgemeinschaft (DFG), Deutsch-Israelische Stiftung für Wissenschaftliche Forschung und Entwicklung (GIF), European Molecular Biology Organization (EMBO), Medical Research Council (MRC), National Science Foundation (NSF, USA), Netherlands Organisation for Scientific Research (NWO), Research Foundation-Flanders/Fonds Wetenschappelijk Onderzoek (FWO, Belgien), The Royal Society (London, UK), The Wellcome Trust UK, Foundation for Polish Science (FNP), European Molecular Biology Conference (EMBC), Studienstiftung des Deutschen Volkes, Bundesministeriums für Bildung und Forschung (BMBF), British Society for Antimicrobial Chemotherapy (BSAC), National Research Foundation (NRF) South Africa, Evaluation of grant proposals and promotions for multiple international universities, Humboldt Stiftung, Deutsche Krebshilfe, Wissenschaftsrat and others

	Lecturer for Central European Summer Course (CESC), Szeged, Hungary, Woods Hole Course of Molecular Mycology (USA); post-graduation course on Host-Fungus Interactions, Braga, Portugal); summer school "Pathogen-Host Interactions at Cellular Barriers", Muenster, Germany
Since 2000	Chair, co-chair, organizer and convener of > 50 conferences, meetings and sessions PI in EU-Projects (Framework Programme 5, 6, 7)
1998	Scientific award (Forschungsförderpreis), DMykG
1992-1995	Postdoc fellowships from the EG and DFG

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.

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Jaeger M, Dietschmann A, Austermeier S, Dinçer S, Porschitz P, Vornholz L, Maas RJA, Sprengeler 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.

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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.

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Liang SH, Sircaik S, Dainis J, Kakade P, Penumutchu S, McDonough LD, Chen YH, Frazer C, Schille TB, Allert S, Elshafee O, Hänel M, Mogavero S, Vaishnava S, Cadwell K, Belenky P, Perez JC, Hube B, Ene IV, Bennett RJ (2024) The hyphal-specific toxin candidalysin promotes fungal gut commensalism. *Nature* 627(8004), 620-627.

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Müller R, König A, Groth S, Zarnowski R, Visser C, Handrianz T, Maufrais C, Krüger T, Himmel

M, Lee S, Priest EL, Yildirim D, Richardson JP, Blango MG, Bougnoux ME, Kniemeyer O, d'Enfert C, Brakhage AA, Andes DR, Trümper V, Nehls C, Kasper L, Mogavero S, Gutsman T, Naglik JR, Allert S, Hube B (2024) Secretion of the fungal toxin candidalysin is dependent on conserved precursor peptide sequences. *Nat Microbiol* 9(3), 669-683.

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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.

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Sekeresova Kralova J, Donic C, Dassa B, Livyatan I, Jansen PM, Ben-Dor S, Fidel L, Trzebanski S, Narunsky-Haziza L, Asraf O, Brenner O, Dafni H, Jona G, Boura-Halfon S, Stettner N, Segal E, Brunke S, Pilpel Y, Straussman R, Zeevi D, Bacher P, Hube B, Shlezinger N, Jung S (2024) Competitive fungal commensalism mitigates candidiasis pathology. *J Exp Med* 221(5), e20231686.

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Sprague JL, Schille TB, Allert S, Trümper V, Lier A, Großmann P, Priest EL, Tsavou A, Panagiotou G, Naglik JR, Wilson D, Schäuble S, Kasper L^{*}, Hube B^{*#} (2024) *Candida albicans* translocation through the intestinal epithelial barrier is promoted by fungal zinc acquisition and limited by NFκBmediated barrier protection. *Plos Pathogens* 20(3), e1012031.

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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.

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Case NT, Westman J, Hallett MT, Plumb J, Farheen A, Maxson ME, MacAlpine J, Liston SD, Hube B, Robbins N, Whitesell L, Grinstein S, Cowen LE (2023) Respiration supports intraphagosomal filamentation and escape of *Candida albicans* from macrophages. *mBio* 14(6), e0274523.

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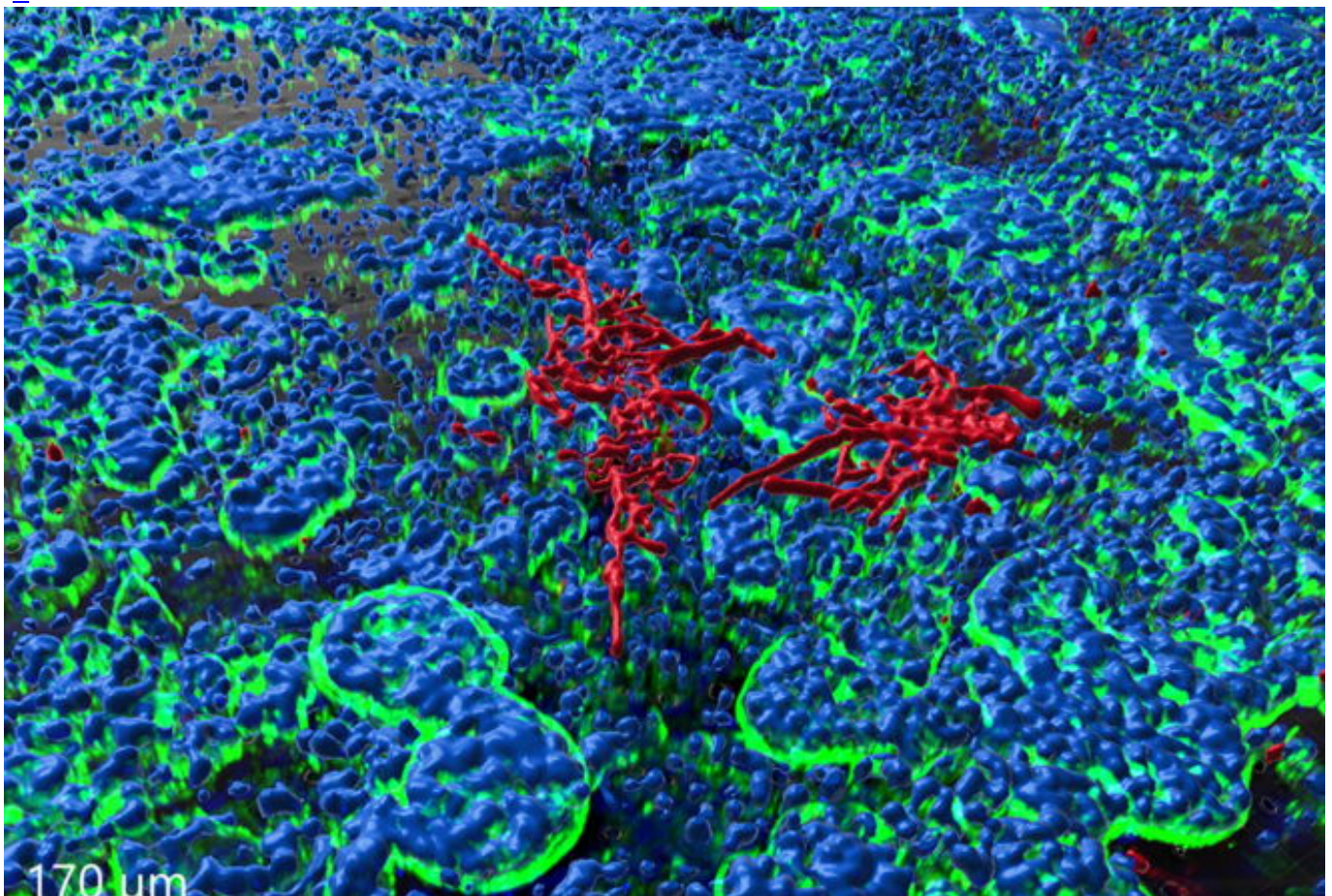
Teachings

[Lecture Molecular and microbial infection biology \(MMB.011 & MBC.A14\) Prof. Dr. Bernhard Hube](#) [Details](#)

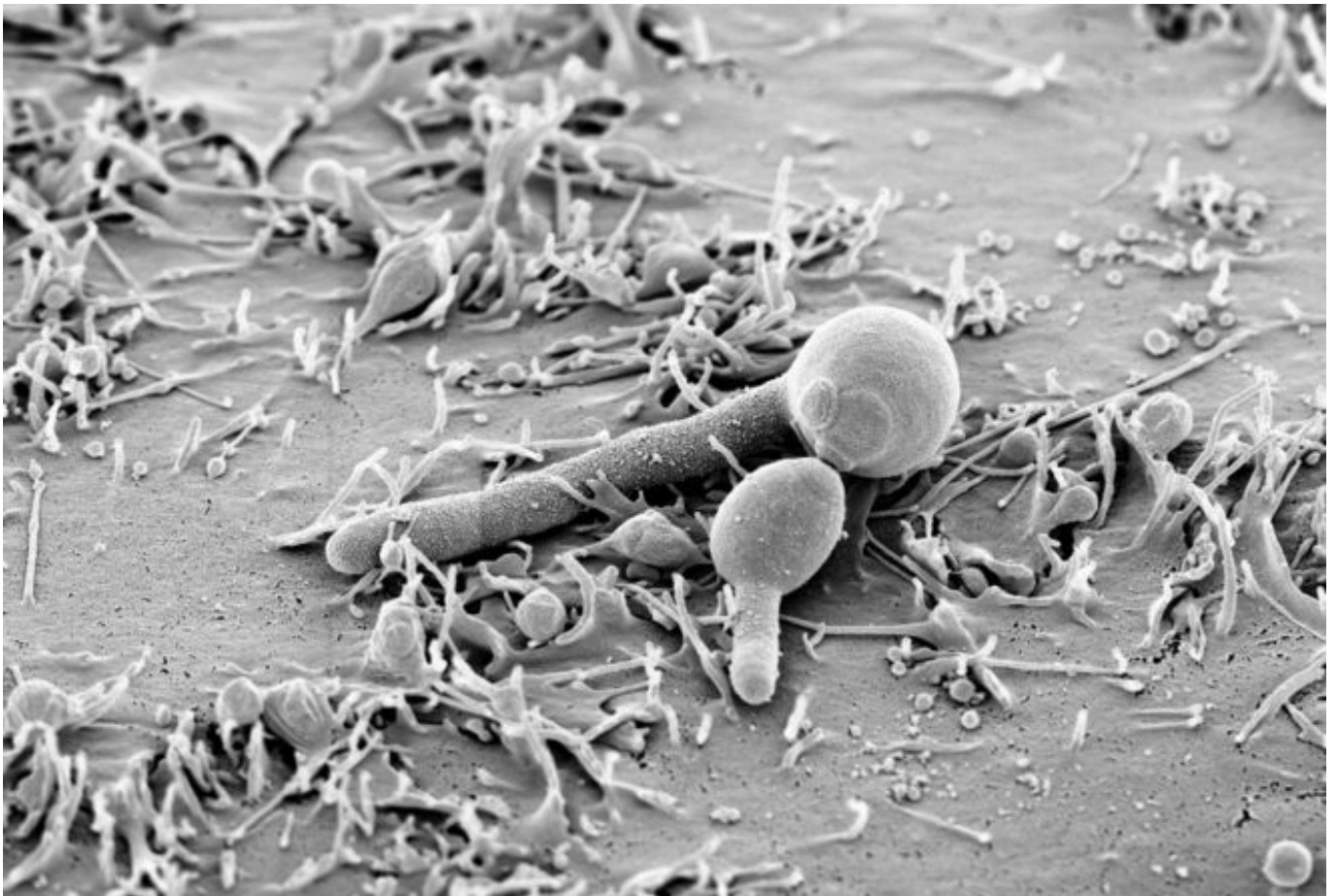
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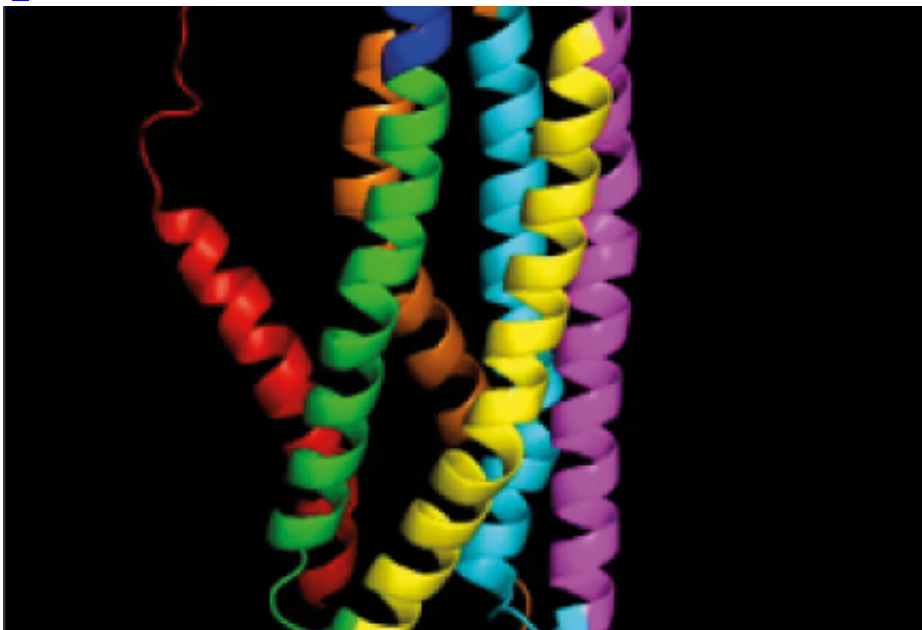
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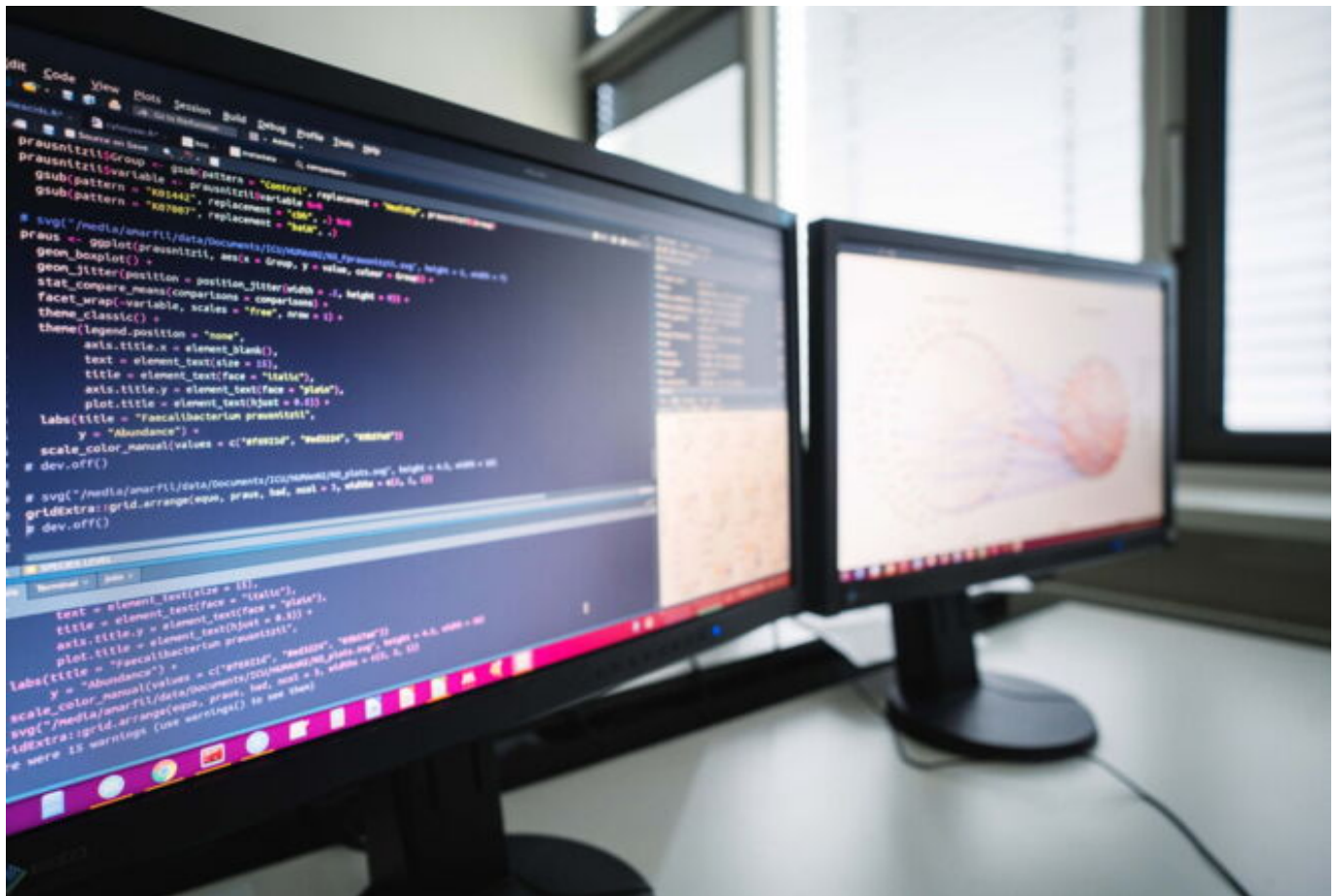


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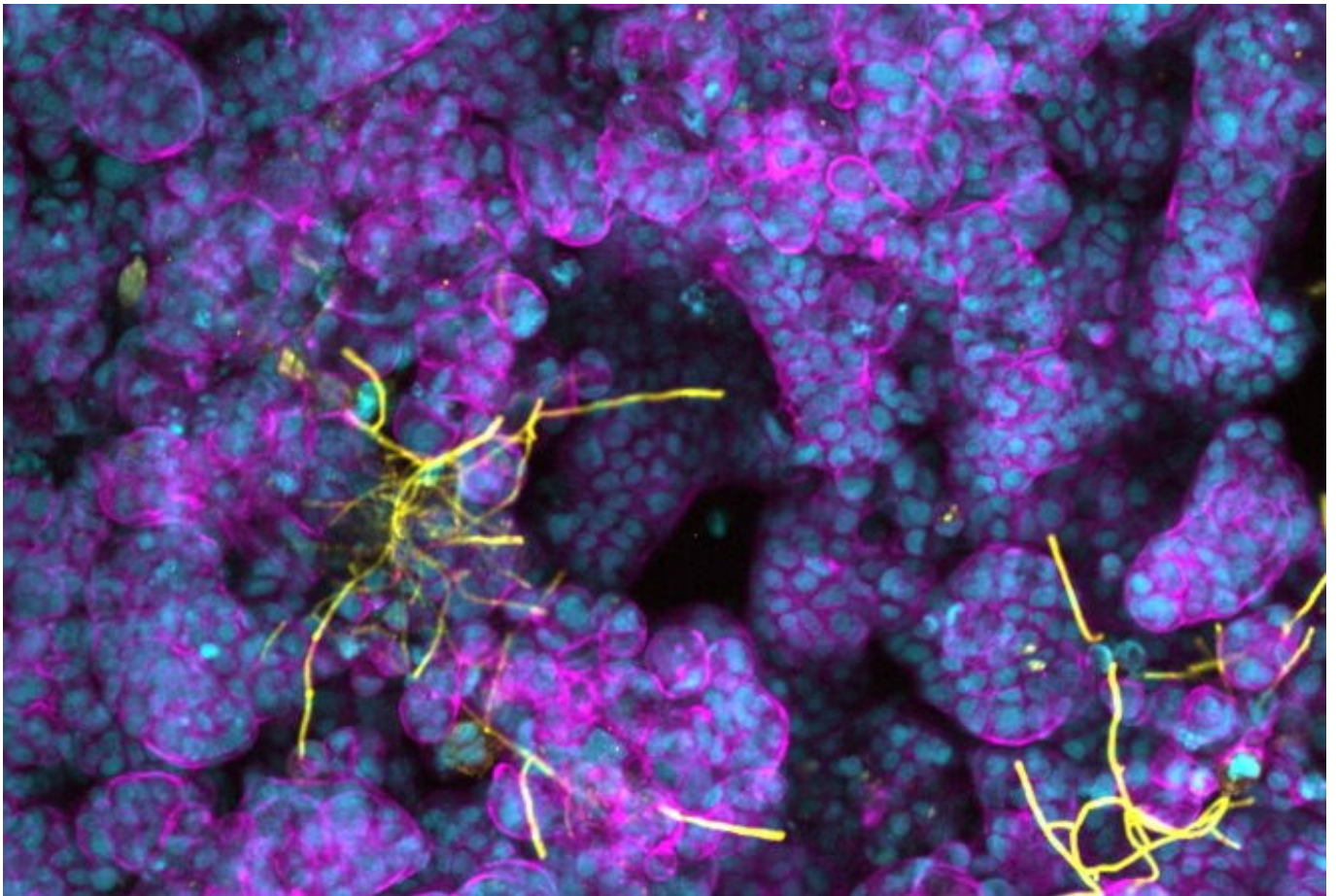
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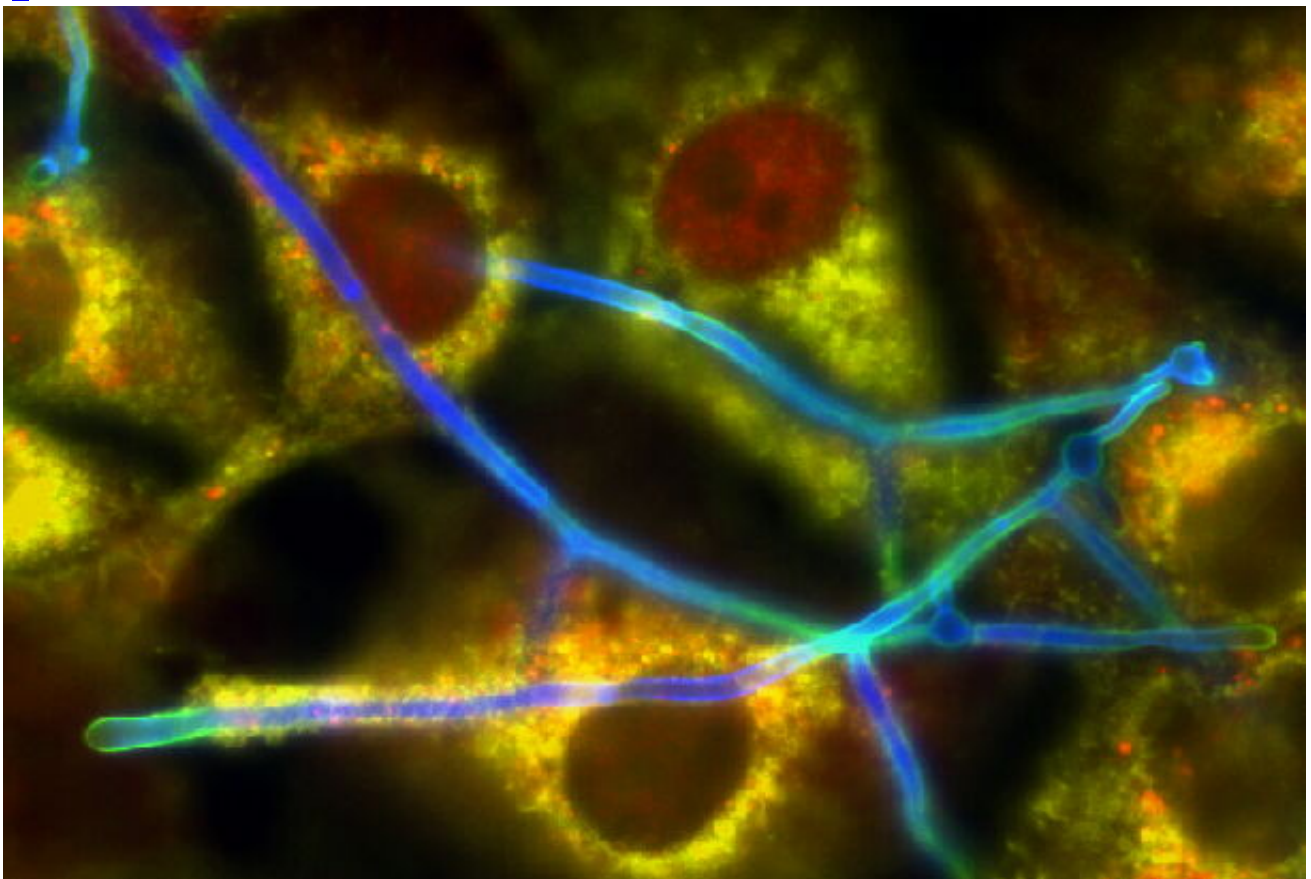


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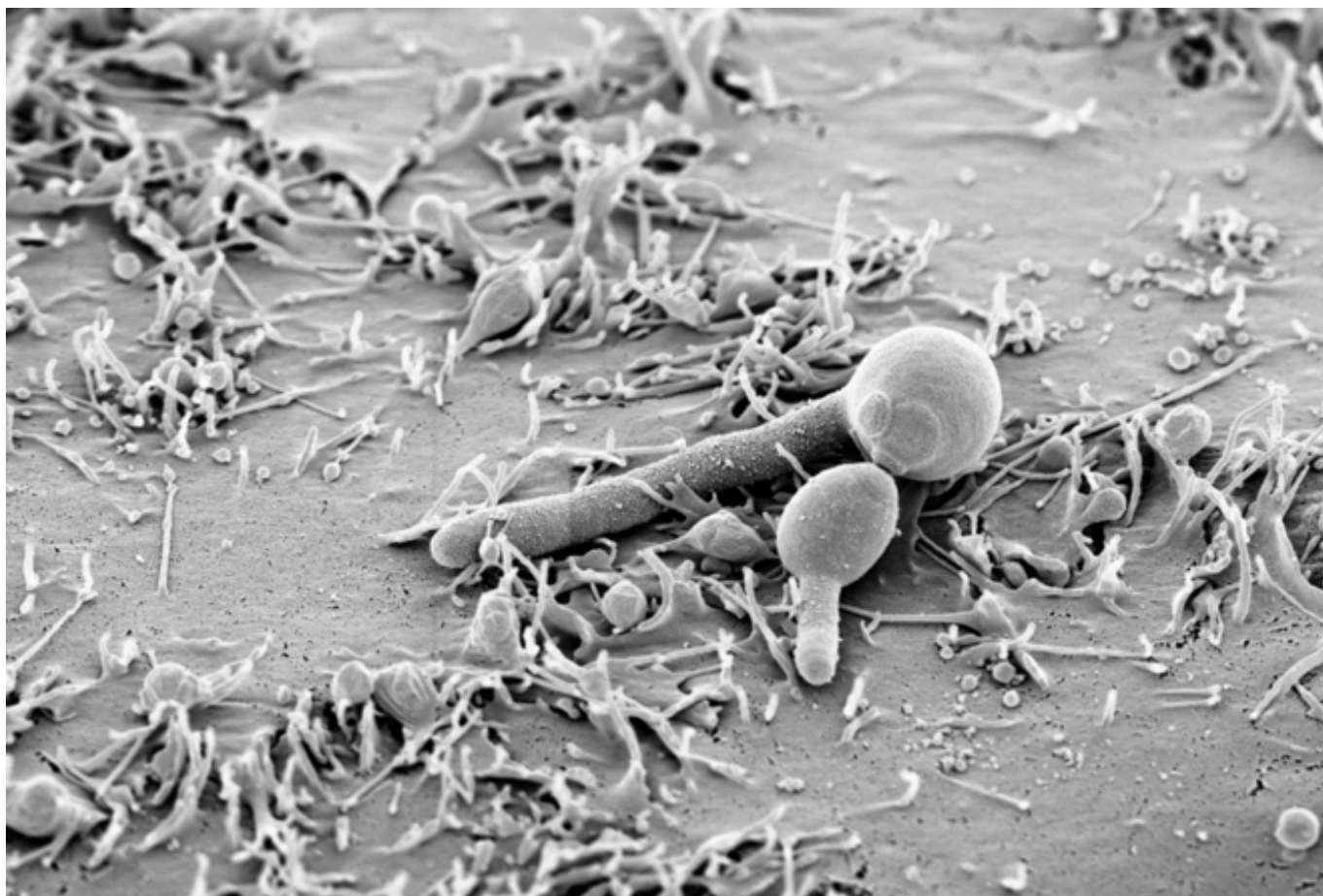
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