



Prof. Dr. Marc Thilo Figge

[Applied Systems Biology](#) +49 3641 532-1416 thilo.figge@leibniz-hki.de

Curriculum vitae

Main Research Areas

- Host-pathogen interaction of human pathogenic fungi
- Automated processing of microscopic images and spectroscopy data
- Spatiotemporal computer simulations of agent-based infection models

Professional Career

since 2021

Professor (W3) for Applied Systems Biology,

since 2011	Friedrich Schiller University Jena Head of Research Group Applied Systems Biology, Leibniz-HKI
2011-2021	Professor (W2) for Applied Systems Biology, Friedrich Schiller University Jena
2005-2010	Junior Fellow in Theoretical Immunology at the Frankfurt Institute for Advanced Studies (FIAS) of the Goethe University Frankfurt
2001-2005	Research assistant in Computer Physics at the University Groningen (NL)
2000	Dr. rer. nat. in Physics at the University Groningen (NL)
1995	Diploma in Physics at the University Dortmund

Awards · Appointments · Scientific Activities

Awards

2011 - 2017	Adjunct Fellow at Frankfurt Institute for Advanced Studies (FIAS)
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Appointments and Scientific Activities

since 2023	Board Member and Coordinator of Task Area “Bioimage Informatics” in the DFG-funded national research data management initiative “NFDI4Bioimage”
since 2023	Board Member and PI in the DFG-Research Training School RTG 2723 – “Materials- Microbes-Microenvironments”
since 2023	Board Member of the Beutenberg Campus e.V. “Life Science meets Physics”
since 2023	Editor: PLOS Complex Systems
since 2023	Editor: Biological Imaging
since 2022	Coordinator of Basic Technology 3 in the BMBF- funded “Leibniz Center for Photonics in Infection Research”
since 2022	Coordinator of the BMBF-funded “Multi-Model- Simulator Project” in the funding line “Computational Life Sciences”
since 2021	Deputy Coordinator of the “Jena School for Microbial Communication”
since 2019	Coordinator of Research Area C – Data Synopsis in the Excellence Cluster “Balance of the Microverse”
since 2019	Member of the Management Board of the Microverse Imaging Center in the Excellence

since 2019	Cluster "Balance of the Microverse"
since 2019	Speaker and PI of Leibniz ScienceCampus
since 2017	"InfectoOptics"
since 2017	Editor: Scientific Reports
since 2017	Ombudsperson at the Leibniz Institute for
since 2017	Natural Product Research and Infection Biology
since 2015	PI and member of the DFG-Collaborative
since 2015	Research Center 1278 PolyTarget
since 2015	Editor: Cytometry A
since 2015	Member: Jena Center for Soft Matter
since 2015	Member: Michael Stifel Center for Data-Driven
since 2014	and Simulation Science
since 2014	PI and member of the DFG-Collaborative
since 2014	Research Center 124 FungiNet
since 2012	Organizer: Biennial international symposium on
since 2012	"Image-based Systems Biology" (IbSB)
since 2011	Organizer: Biennial international symposium on
since 2011	"Systems Biology of Microbial Infection" (SBMI)
since 2011	Faculty member and PI in the "International
since 2011	Leibniz Research School for Microbial and
since 2011	Biomolecular Interactions"
since 2011	Faculty member and PI in the "Jena School for
since 2011	Microbial Communication"

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](#)



Jojić K*, Gherlone F*, Cseresnyés Z, Bissell AU, Hoefgen S, Hoffmann S, Huang Y, Janevska S, Figge MT, Valiante V (2024) The spatial organization of sphingofungin biosynthesis in *Aspergillus fumigatus* and its cross-interaction with sphingolipid metabolism. *mBio* 15(3), e0019524.

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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.

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PubMed

OPEN ACCESS

Ruhland E, Siemers M*, Gerst R*, Späth F, Vogt LN, Figge MT, Papenfort K, Fröhlich KS[#] (2024) The global RNA–RNA interactome of *Klebsiella pneumoniae* unveils a small RNA regulator of cell division. *Proc Natl Acad Sci U S A* 121(9), e2317322121.

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PubMed



Sarkar A, Praetorius JP, Figge MT[#] (2024) Deep learning-based characterization of neutrophil activation phenotypes in *ex vivo* human *Candida* blood infections. *Comput Struct Biotechnol J* 23, 1260-1273.

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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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Battista M, Hoffmann B, Bachelot Y, Zimmermann L, Teuber L, Jost A, Linde S, Westermann M,

Müller MM, Slevogt H, Hammerschmidt S, Figge MT, Vilhena C^{*#}, Zipfel PF^{*#} (2023) The role of pneumococcal extracellular vesicles on the pathophysiology of the kidney disease hemolytic uremic syndrome. *mSphere* 8(4), e0014223.

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Behrendt F, Pretzel D, Cseresnyés Z, Kleinsteuber M, Wloka T, Radosa L, Figge MT, Gottschaldt M, Brakhage AA, Schubert US[#] (2023) Hydrophilic cryogels as potential 3D cell culture materials: Synthesis and characterization of 2-(methacrylamido) glucopyranose-based polymer scaffolds. *J Polym Sci* 61(23), 3039-3054.

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Behrendt F^{*}, Cseresnyés Z^{*}, Gerst R, Gottschaldt M, Figge MT[#], Schubert US[#] (2023) Evaluation of reproducible cryogel preparation based on automated image analysis using deep learning. *J Biomed Mater Res A* 111(11), 1734-1749.

[Details](#)



Dellbrügge F, Jesse LD, Medyukhina A, Liu N, Neugebauer S, Freißmuth M, Höppener S, Figge MT, Morrison H, Riecken LB, Press AT[#] (2023) Contribution of radixin and ezrin to the maintenance of hepatocytes' excretory function in health and disease. *Heliyon* 9(11), e21009.

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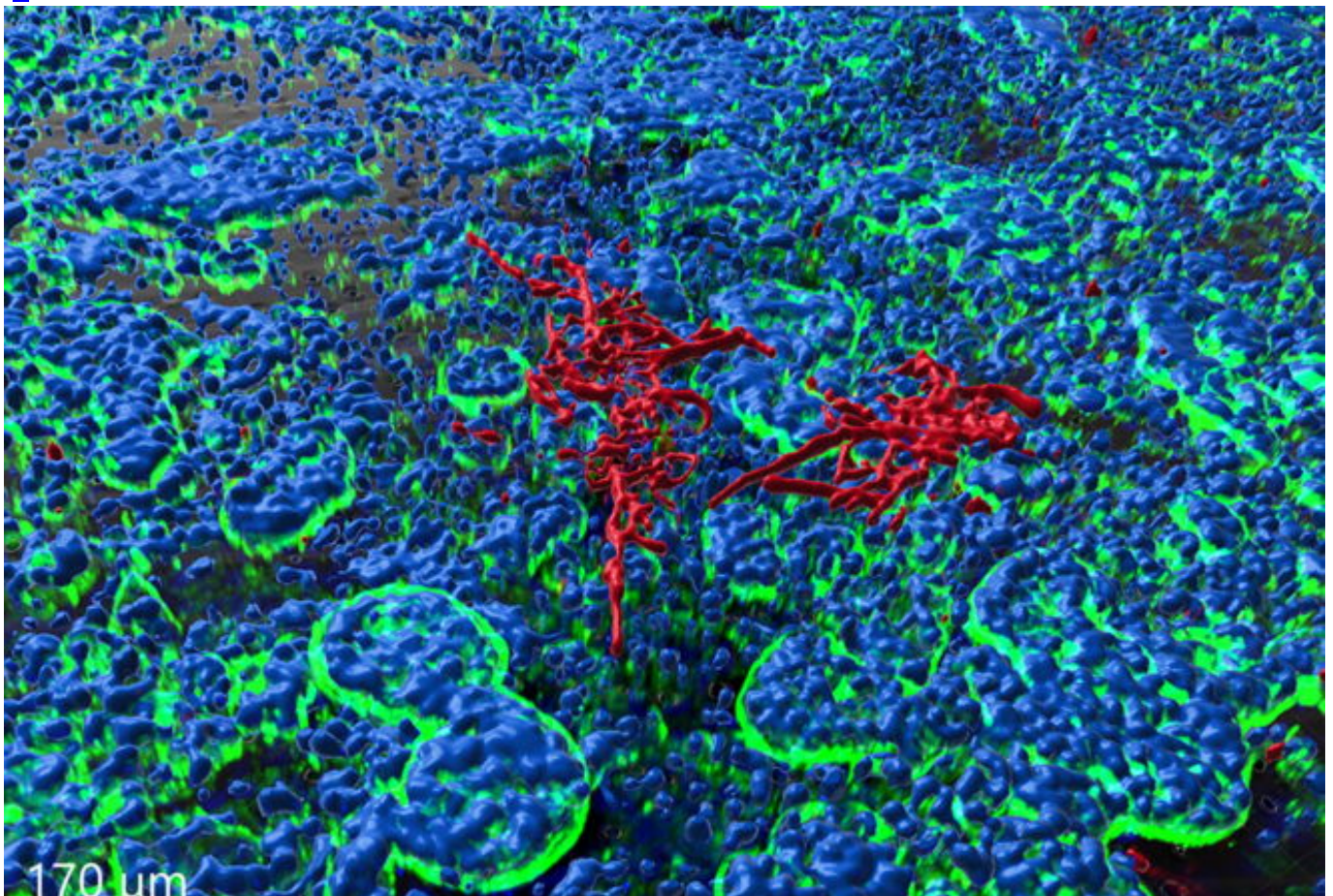
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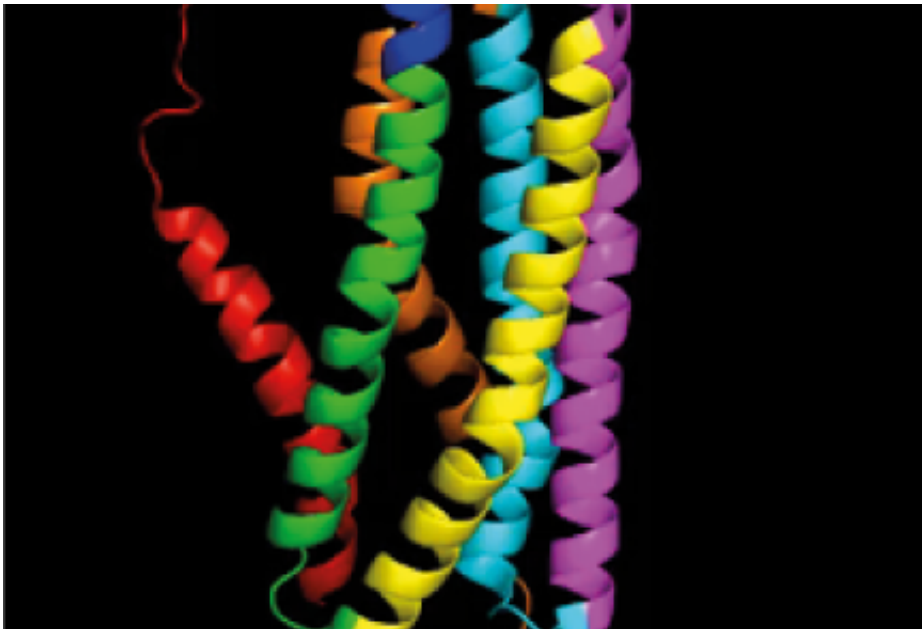
Teachings

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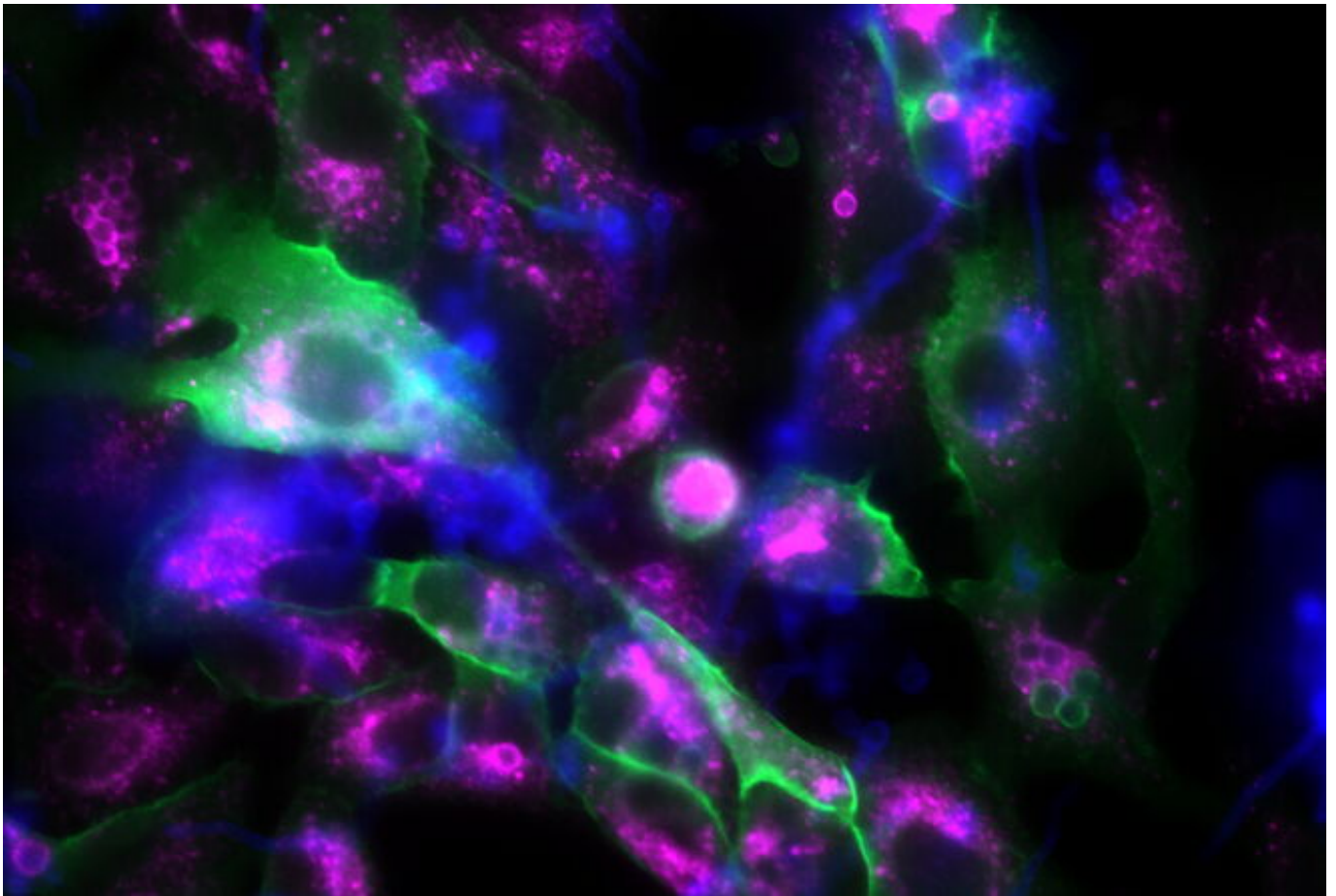
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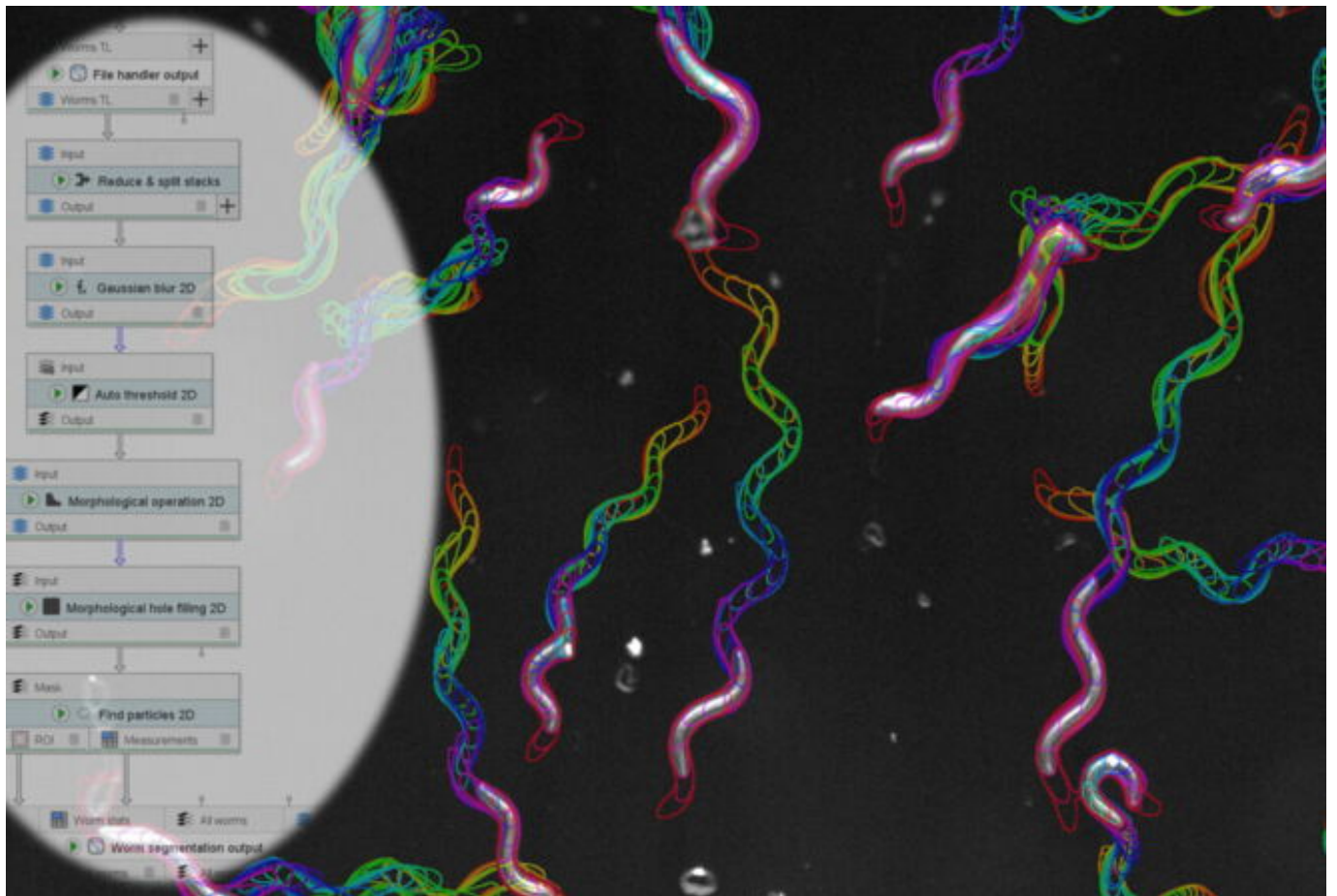


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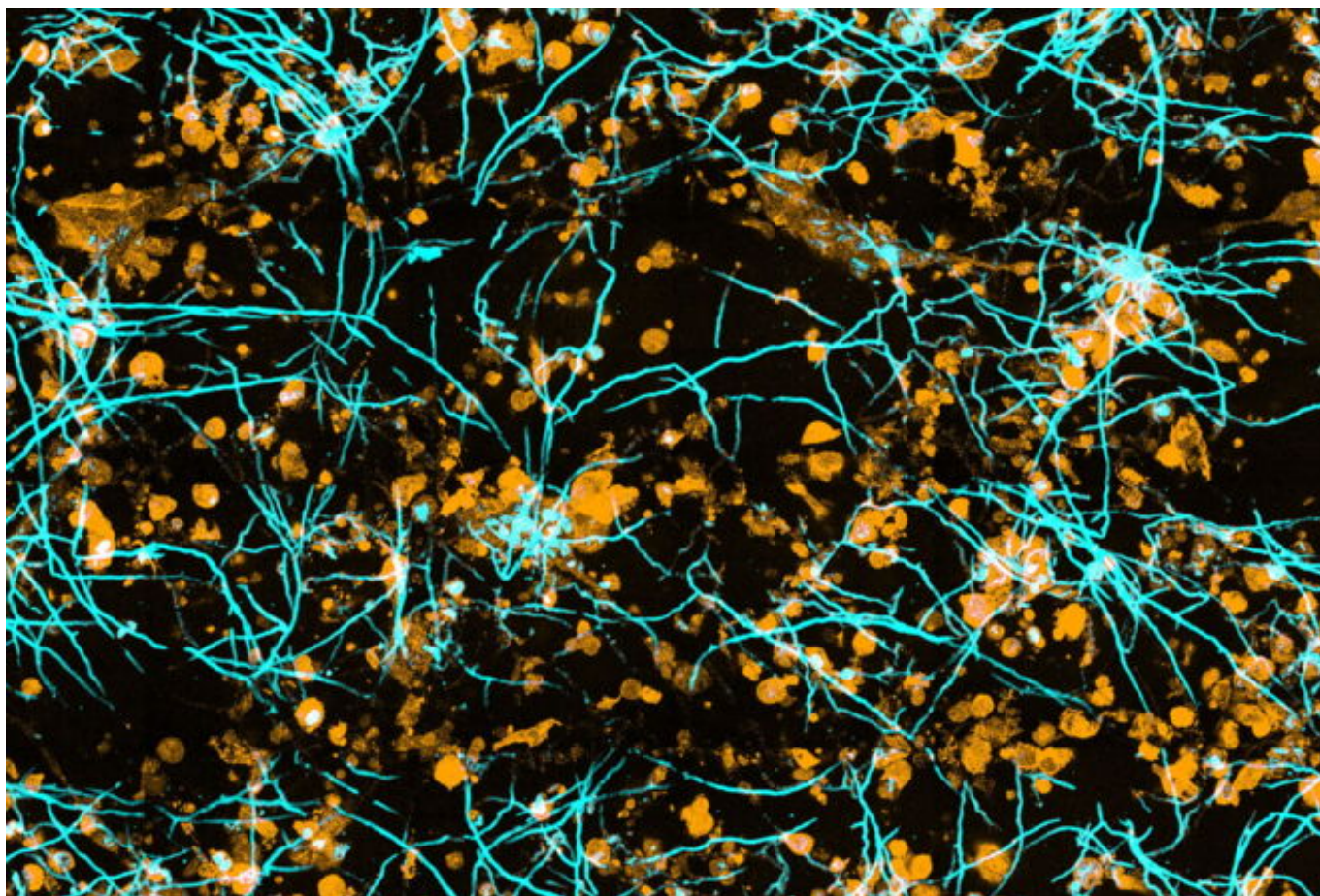
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