

# Stanford

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## Jakob Wirbel

Postdoctoral Scholar, Hematology

### Bio

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#### PROFESSIONAL EDUCATION

- Master of Science, University of Heidelberg (2017)
- Doctor of Philosophy, Eberhard Karls Universität Tübingen (2022)
- Bachelor of Science, University of Heidelberg (2014)
- Dr. rer. nat., European Molecular Biology Laboratory (EMBL) & Eberhard-Karls-Universität Tübingen, Bioinformatics (2022)
- Master of Science, Ruprecht-Karls-Universität Heidelberg, Molecular Biotechnology (2017)
- Bachelor of Science, Ruprecht-Karls-Universität Heidelberg, Molecular Biotechnology (2014)

#### STANFORD ADVISORS

- Ami Bhatt, Postdoctoral Research Mentor
- Ami Bhatt, Postdoctoral Faculty Sponsor

### Publications

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#### PUBLICATIONS

- **Microbiome meta-analysis and cross-disease comparison enabled by the SIAMCAT machine learning toolbox.** *Genome biology*  
Wirbel, J., Zych, K., Essex, M., Karcher, N., Kartal, E., Salazar, G., Bork, P., Sunagawa, S., Zeller, G.  
2021; 22 (1): 93
- **Meta-analysis of fecal metagenomes reveals global microbial signatures that are specific for colorectal cancer.** *Nature medicine*  
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2019; 25 (4): 679-689
- **Expanding the human gut microbiome atlas of Africa.** *bioRxiv: the preprint server for biology*  
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2024
- **The journey to understand previously unknown microbial genes.** *Nature*  
Wirbel, J., Bhatt, A. S., Probst, A. J.  
2024
- **Intragenic DNA inversions expand bacterial coding capacity.** *bioRxiv: the preprint server for biology*  
Chanin, R. B., West, P. T., Park, R. M., Wirbel, J., Green, G. Z., Miklos, A. M., Gill, M. O., Hickey, A. S., Brooks, E. F., Bhatt, A. S.  
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- **A faecal microbiota signature with high specificity for pancreatic cancer.** *Gut*  
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2022; 71 (7): 1359-1372
- **Microbiota-dependent activation of the myeloid calcineurin-NFAT pathway inhibits B7H3- and B7H4-dependent anti-tumor immunity in colorectal cancer.** *Immunity*  
Peuker, K., Strigli, A., Tauriello, D. V., Hendricks, A., von Schönfels, W., Burmeister, G., Brosch, M., Herrmann, A., Krüger, S., Nitsche, J., Južniš, L., Geissler, M. M., Hiergeist, et al  
2022; 55 (4): 701-717.e7
- **Calorie restriction improves metabolic state independently of gut microbiome composition: a randomized dietary intervention trial.** *Genome medicine*  
Sowah, S. A., Milanese, A., Schübel, R., Wirbel, J., Kartal, E., Johnson, T. S., Hirche, F., Grafetstätter, M., Nonnenmacher, T., Kirsten, R., López-Nogueroles, M., Lahoz, A., Schwarz, et al  
2022; 14 (1): 30
- **Identifying temporal and spatial patterns of variation from multimodal data using MEFISTO.** *Nature methods*  
Velten, B., Braunger, J. M., Argelaguet, R., Arnol, D., Wirbel, J., Bredikhin, D., Zeller, G., Stegle, O.  
2022; 19 (2): 179-186
- **Unravelling the collateral damage of antibiotics on gut bacteria.** *Nature*  
Maier, L., Goemans, C. V., Wirbel, J., Kuhn, M., Eberl, C., Pruteanu, M., Müller, P., Garcia-Santamarina, S., Cacace, E., Zhang, B., Gekeler, C., Banerjee, T., Anderson, et al  
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- **Commensal Clostridiales strains mediate effective anti-cancer immune response against solid tumors.** *Cell host & microbe*  
Montalban-Arques, A., Katkeviciute, E., Busenhardt, P., Bircher, A., Wirbel, J., Zeller, G., Morsy, Y., Borsig, L., Glaus Garzon, J. F., Müller, A., Arnold, I. C., Artola-Boran, M., Krauthammer, et al  
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- **Prediction of combination therapies based on topological modeling of the immune signaling network in multiple sclerosis.** *Genome medicine*  
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- **Metabolic models predict bacterial passengers in colorectal cancer.** *Cancer & metabolism*  
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- **Metagenomic analysis of colorectal cancer datasets identifies cross-cohort microbial diagnostic signatures and a link with choline degradation.** *Nature medicine*  
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- **Extensive transmission of microbes along the gastrointestinal tract.** *eLife*  
Schmidt, T. S., Hayward, M. R., Coelho, L. P., Li, S. S., Costea, P. I., Voigt, A. Y., Wirbel, J., Maistrenko, O. M., Alves, R. J., Bergsten, E., de Beaufort, C., Sobhani, I., Heintz-Buschart, et al  
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- **Phosphoproteomics-Based Profiling of Kinase Activities in Cancer Cells.** *Methods in molecular biology (Clifton, N.J.)*  
Wirbel, J., Cutillas, P., Saez-Rodriguez, J.  
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- **Red Blood Cells Preconditioned with Hemin Are Less Permissive to Plasmodium Invasion In Vivo and In Vitro.** *PloS one*  
Gaudreault, V., Wirbel, J., Jardim, A., Rohrbach, P., Scorza, T.  
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