

RESEARCH LAB PROFILE

Name of lab / institute	Oral Microbiology, Center for Dental Medicine, Department of Operative Dentistry and Periodontology
Head of lab / institute + contact information	Ali Al-Ahmad ali.al-ahmad@uniklinik-freiburg.de phone: 0761 270-48940
Lab/Office Address	Hugstetter Straße 55
Lab members working on microbiome + contact information	Sibylle Bartsch (Research Associate) sibylle.bartsch@uniklinik-freiburg.de phone: 0761 270-48670
Link to lab / institute page	https://www.uniklinik-freiburg.de/zahnerhaltung/team.html
Lab description	We investigate the oral microbiota in connection with various oral diseases, biomaterials, specific diets or antimicrobial substances.
Keywords	Oral microbiology, microbiome, biofilm, antimicrobial resistance
METHODS / RESOURCES	
Lab tools	Isolation of microorganisms (Culturomics) DNA isolation, currently investigation of RNA isolation PCR and qPCR, currently investigation of RT-PCR Analysis of oral metagenomes in collaboration with bioinformaticians SEM and fluorescence microscopy Fluorescence <i>in situ</i> hybridization (FISH)
Selected Publications	<ol style="list-style-type: none"> Anderson A.C., von Ohle C., Frese C., Boutin S., Bridson C., Schoilew K., Peikert S.A., Hellwig E., Pelz K., Wittmer A., Wolff D., Al-Ahmad A. (2023). The oral microbiota is a reservoir for antimicrobial resistance: Resistome and phenotypic resistance characteristics of oral biofilm in health, caries, and periodontitis. <i>Ann Clin Microbiol Antimicrob</i>; in print. Bartsch S., Kohnert E., Kreutz C., Woelber J.P., Anderson A., Burkhardt A-S., Hellwig E., Buchalla W., Hiller K-A., Radka-Krueger P., Cieplik F., Al-Ahmad A. (2023). Effects of chlorhexidine on the oral microbiota and the prevalence of antimicrobial resistance genes. In preparation. Anderson AC, Al-Ahmad A, Schlueter N, Frese C, Hellwig E, Binder N. (2020). Influence of the long-term use of oral hygiene products containing stannous ions on the salivary microbiome - a randomized controlled trial. <i>Sci Rep</i>. 10(1):9546. Anderson A, Rothballer M, Altenburger M, Woelber J, Karygianni L, Vach K, Hellwig E, Al-Ahmad A. (2020). Long-term fluctuation of oral biofilm microbiota following different dietary phases. <i>Appl Environ Microbiol</i> 86(20):e01421-20. Anderson A, Rothballer M, Altenburger MJ, Woelber JP, Karygianni L, Lagkouvardos I, Hellwig E, Al-Ahmad A. (2018). In-vivo shift of the microbiota in oral biofilm in response to frequent sucrose consumption. <i>Sci Rep</i> 8(1):14202. Al-Ahmad A, Wollensak K, Rau S, Guevara Solarte DL, Paschke S, Lienkamp K,

	Staszewski O. (2021). How Do Polymer Coatings Affect the Growth and Bacterial Population of a Biofilm Formed by Total Human Salivary Bacteria?—A Study by 16S-RNA Sequencing. <i>Microorganisms</i> 9:1427.
SELECTED ONGOING MICROBIOME-RELATED COLLABORATIONS	
COLLABORATORS Name, Lab	<ul style="list-style-type: none"> • Tarek Badr (Institute of Microbiology and Hygiene, Freiburg) • Clemens Kreutz and Eva Kohnert (Institute of Medical Biometry and Statistics (IMBI), Freiburg) • Andreas Dötsch (Max Rubner-Institut (MRI), Karlsruhe) • Diana Wolff and Cornelia Frese (Conservative Dentistry, Heidelberg) • Christiane von Ohle (Conservative Dentistry, Periodontology and Endodontology, Tübingen)