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Highly multiplexed and spatially resolved phylogenetic census of microbial consortia[1] HAO SHI, Department of Physics, Cornell University, IWIJN DE VLAMINCK, Meinig School of Biomedical Engineering, Cornell University — Microbes in the environment frequently live in complex biofilm communities. The spatial relationships between individual cells within a biofilm can provide insights into the ecology and function of the microbial community. Fluorescence in-situ hybridization experiments have revealed the exquisite spatial organization of microbial communities in a variety of environments. However, technical limitations of fluorescence imaging have so far significantly limited the number of observable taxons in a single experiment. We have developed a versatile method to perform highly multiplexed spatial census of microbial communities. We will present results from application of this technique to human oral biofilms.

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