Project III: Role of cyanobacterial biofilms in the precipitation of carbonates

Stromatolites are sedimentary structures that are produced by microbial communities through trapping and binding of sediment, and/or precipitation of carbonate. They therefore provide evidence for early life in Earth history since they date back to 3,480 Ma.

**Material & Methods:** Carbonate biomineralization experiments will be carried out in the lab under well defined physicochemical conditions (pH, salinity, metal concentration, UV) using the cyanobacterial biofilm of a living stromatolite as an inoculum (left image).

**Methodology:** SEM-EDS, XRD, and RAMAN spectroscopy combined with microbial community profiling (Illumina amplicon sequencing)

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