

Microbial diversity

The ocean microbial community (microbiome) is vital to its overall function. Its diversity, however, is not well investigated. In the Southern Benguela upwelling region, in particular, it is virtually unknown. Yet, this knowledge is vital in order to properly assess ocean ecosystem health and, more importantly, provide accurate input into ecosystem models. Our lab is finishing up a three-year NRF study focusing on the Southern Benguela microbiome, which has generated more samples than we can afford to sequence. This study, if funded, will sequence key members of the ocean microbiome in the Southern Benguela upwelling region and elucidate their overall functioning alongside those already sequenced in the current study. The availability of new next-generation sequencing technology (a MinION ion torrent sequencer, recently acquired in our lab) allows for in-depth, multiplexed sampling in real time, quickly and relatively cheaply. This funding would allow us to further sequence existing samples using the MinION. The resulting data would allow us to use the information from the samples to their full potential. It would also contribute key knowledge to AtlantECO, a European Commission funded H2020 project. The aim of AtlantECO is to determine the structure and function of the Atlantic microbiome in the context of ocean circulation and presence of pollutants, to assess its role in driving the dynamics of Atlantic ecosystems at basin and regional scales. We will contribute to AtlantECO but that project is not funding the sequencing work described below.