Bacteria are present in practically all corners of the world – from our skin, to the hot springs of Yellowstone National Park, and the deepest depths of the ocean. Novel technologies have uncovered a tremendous biodiversity of microorganisms, which likely constitute more than 50% of the total biomass on Earth. What is the role and function of all these bacteria? When are they harmful? When do they perform important services for us, like removing CO₂ from the air?

Professor Adam Martiny will describe how novel technologies, like DNA sequencing and synthetic biology, have given us a glimpse into the fascinating world of bacteria. He will give examples of how some previously unknown bacteria can negate more CO₂ than all the trees in North America or influence the human obesity rate.

Adam Martiny was born and raised in Denmark. He received his Ph.D. from the Technical University of Denmark by studying bacteria in drinking water supply systems. As a postdoctoral fellow at MIT, he gained an interest in one of the most abundant photosynthetic bacteria on Earth – Prochlorococcus. He came to UC Irvine in 2006 and has a split position in Departments of Earth System Science and Ecology and Evolutionary Biology.