Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

ALUMNI

Dr. Lucas Moitinho-Silva

Research Areas:
In the early stage of my scientific career, I focused on the interactions between hosts and pathogens. In this theme, I completed my Bachelor's degree in Biomedicine (2007) at the Federal University of Pernambuco and my Master's degree in Molecular and Cellular Biology (2010) at the Federal University of Rio Grande do Sul, Brazil. At the moment, my research interest is animal-microbe symbiosis, with special regard to sponge microbiology. I concluded my PhD research (2014) at the University of Wuerzburg, under supervision of Prof. Ute Hentschel. In my PhD thesis, I explored the diversity and functions of microbial communities associated with Red Sea sponges. Currently, I am a Postdoctoral Research Associate at The University of New South Wales, Australia, where I continue to apply molecular biology and bioinformatic tools to better understand sponge microbiomes.

In which areas do global and especially changes in biodiversity affect our daily life? Which changes did already take place and which development do you see in the future?
Biodiversity changes driven by human-related processes, such as global change and land use, have a major impact in our life. The alteration in the structure of biological communities echoes in ecosystem processes, such as element cycling. These changes can compromise conditions that support human activities, for example soil fertility and climate regulation. This chain of events impacts our daily life condition, which can be sensed by the reduction of the availability of food, structural materials, and medicines.
Human activities have increased the rate of species extinction and ecosystem disturbance and degradation, where the Great Barrier Reef and the Amazon biomes are sadly notorious examples. In my opinion, unless there is a change in behaviour at the individual and collective levels, the rate of changes in ecosystems will continue to increase.

Which factors are important to develop strategies that do not only improve our current situation immediately, but also lead to a sustainable change?
A major strategy to reduce the rate of global changes driven by humans is to improve awareness about it. As a scientist, I believe I contribute to this strategy by increasing our understanding of microbial biodiversity and its functional processes. More broadly, science gives us a better picture of the causes and consequences of human activities on ecosystems. It is important to communicate scientific findings to the main public, in order to generate individual and governmental awareness, which leads to actions aiming the reduction of global change rate to a sustainable level.