University
of São Paulo

**Marius N. Müller, PhD**

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Dear Selection Committee,

I would like to express my interest in participating in the collaborative and interdisciplinary study on time organised by Intercontinental Academia. I am a trained marine biogeochemist who received his PhD in 2009 in Germany and subsequently realised post doctoral research projects in France and Australia. Currently, I am working at the Institute of Oceanography at the University of São Paulo.

My broad research interest embraces the role of marine microbes in the Earth's system ranging from the geological past to the projected future (climate change). Throughout my career, I was always fascinated about intra-cellular processes that happen within a second and that can impact biogeochemical cycles on short and geological time scales (e.g. the production and formation of marine limestone). As a natural scientist combining several scientific fields (geology, chemistry, biology, oceanography), I became to realise the beauty and importance of cross-disciplinary collaborations to develop the right questions and to achieve excellent outcomes. Being a student, I participated in the HELCOM Youth Forum (Helsinki Baltic Marine Environment Protection Commission) which encourages a joint approach of students from all littoral countries of the Baltic Sea to formulate new ideas towards the ecological protection and the economical regulation/sustainability of the Baltic Sea. This forum was an excellent experience for a collaborative approach between various fields of sciences (law, economics, hard and soft natural sciences) and diverse cultures.

I believe that my cross-disciplinary expertise and communication skills will give a substantial contribution to the collaborative and interdisciplinary study on time. Time and the perception of it is an important factor for my research area, especially when addressing questions on the evolution of life on Earth. The perception of time in asexually reproducing microbes

can be very different. For example, microbes which experience diurnal, seasonal changes in the environment have a different concept of time than microbes living in deep-sea muds which do not experience environmental change over millions of years. With the exploration of unknown environments (e.g. deep-sea, Antarctica, Mars) humanity is encountering new life in farious forms which might change our view of traditional scientific concepts. Therefore, addressing the concept of time is a 'timely' matter. My residences in four different countries and participation in numerous international conferences have taught me to communicate with scientists from diverse cultures. Our cultural background is a crucial fact to be aware of because it can influence our decisions and approaches to essential questions. It will be a pleasure to explore scientific and cultural boundaries that might be discovered during this joint venture of cultural and scientific exchange.

I hope you will consider my application favourably.

Sincerely,
Marius N. Müller, PhD