NUS National University of Singapore | Department of Biological Sciences, Faculty of Science

# ON-SITE BIOLOGY COLLOQUIUM

Friday, 20 Oct 2023 | 4 pm | LT32

Hosted by Assist. Prof Ying Chang

Map to Block S1A

# Deep-sea fungal diversity in Mexico: Roles, functions and utilization

*By* **Patricia Velez**

*Faculty (Research Professor), Biology Institute, National Autonomous University of Mexico (UNAM)*

Since the first fungus documented from an oceanic sample in Mexico in 1984, the formal exploration of deep-sea biomes developed until the early XXI. These exploration efforts have reached deep-sea plains, hydrothermal vents, and oxygen minimum zones, revealing an extraordinary taxonomic and functional diversity characterized by the occurrence of abundant, widely distributed, uncultured phylotypes that remain to be described. In addition, fungal isolates obtained from deep-sea samples across the Gulf of Mexico have been proposed as valuable elements for the bioremediation of marine oil spills, as they have demonstrated the ability to metabolize aliphatic hydrocarbons and extra-heavy crude oil. In this sense, metabolomic data has revealed the chemical and antimicrobial potential of deep-sea derived isolates, highlighting that culture temperature is the primary factor modeling metabolite features. Despite incipient advances, a lot of work remains to be done to conclude on fungal diversity figures and ecological roles in deep-sea.

***About the Speaker***

*Dr. Velez earned her B.S. (2008), M.S. (2010), and Ph.D. (2014) degrees in Biological Sciences from the National Autonomous University of Mexico (UNAM) for her work on arenicolous marine fungi. Next, she performed two postdoctoral stays at the UNAM and the CICESE studying molecular ecology of freshwater and deep-sea fungi respectively. Now, she is a faculty member (Research Professor) at the Institute of Biology, UNAM where her work aims to explore the diversity, ecology and potential utilization of fungal communities, particularly in marine ecosystems. She teaches courses on Molecular Ecology of Microbial Communities and Taxonomy and Conservation in the Graduate School of Biological Sciences at the UNAM, and has mentored more than 20 graduate and undergraduate students in diverse topics of mycology.*