

GlobalSeaweedSTAR Capacity Building Fund Completion Report

Awardee Details

Grant reference ID	GSS/CBF/003
Full name/title	Eldrin DLR. Arguelles
Position held	University Researcher II
Organisation	Philippine National Collection of Microorganisms, National Institute of Molecular Biology and Biotechnology (BIOTECH), University of the Philippines Los Banos



Details of Capacity-Building Activity

Name of activity	International Phycological Forum 2021
Date held	22-26 March 2021
Organiser/provider	International Phycological Congress

Biography

I, Eldrin DLR. Arguelles is a regular employee with a permanent appointment and a designation as University Researcher II at the National Institute of Molecular Biology and Biotechnology (BIOTECH). I am the curator of the algae culture collection and a technical analyst

at the Philippines National Collection of Microorganisms (national repository of microorganisms in the Philippines). As a curator, my main research focuses on the isolation, long-term preservation, identification, taxonomy and biotechnological applications of different terrestrial, aquatic, and marine algae. Being part of a well-known culture collection in the Philippines, I was given an opportunity to do several algal taxonomic studies to different aquatic and terrestrial habitats. Currently, bioprospecting studies on the use of Philippine marine and freshwater algae for cosmetic, pharmaceutical and industrial application are being done in our research Institute. Evaluation of the antioxidant, tyrosinase inhibition, and antibacterial properties of different species of seaweeds (*Sargassum vulgare*, *Sargassum siliquosum*, *Turbinaria ornata*, *Turbinaria decurrens*, and *Padina boryana*) are being conducted in our laboratory. Results of the preliminary screening of the potential biotechnological use of these seaweeds showed potent biological activities with practical use in pharmacological and cosmetic applications.

Report on Capacity-Building Activity

The International Phycological Congress (IPC) is an international conference intended for scientists and professional organizations with an interest in phycology. This forum aims to provide a mechanism where students, algal researchers, and industrialists can share their knowledge and help further the understanding of algae. During the conference, I was able to present an e-poster paper on the bioactive properties of *Padina boryana* extract with potential use in cosmetic industry. I was given a chance to exchange ideas and knowledge with other phycologists and gain constructive comments for the improvement of my research study. The range and diversity of algal research and industries are now rapidly growing, the conference topics were timely and were able to help me understand and appreciate the use of algae to basic science and commercialization. We were given the opportunity to know and understand several researches in the field of taxonomy, biology, physiology, ecology, cultivation, bioprocesses and biotechnology of macro-and microalgae, including value-added products and their applications. The knowledge that I gain from the different speakers and co-presenters helped me realize the great potential of Philippine seaweeds. Our study is considered pioneering study in the Philippines for the potential cosmetic application of our local seaweeds. The findings of our research will be made available to the general public by conducting seminars, paper presentations and trainings for researchers in the academe as well as our local seaweed farmers that will greatly benefit in these studies. In addition, a research proposal will also be written in collaboration with seaweed farmers in the Philippines to be submitted to different external research funding agencies in the Philippines. This project proposal will target the utilization of Philippine seaweeds as source of high value-added products (polyphenols, lipids, proteins, polysaccharides) and other bioactive compounds.

Expansion of my contact networks, partnerships and collaborations among different universities, researchers and entrepreneurs in the field of phycology was achieved during the conference. There were a lot of well-known scientists, which I met, such as, Dr. Alan Critchley, Dr. Yoichi Sato, Susana Coelho, Dan Reed, Mariana Oliveira, Gur Hevroni, Handung Nuryadi, Daniele De Luca and Stefano Accoroni, just to name a few. The congress was

undoubtedly served as a spring well of information on the latest innovations and trends in the field of phycology which could be learned and applied to studies and researches done in our Institute (BIOTECH-UPLB) in the Philippines.