



## Biosurfactants: A multi-approach tool in problem solving

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### Abstract:

Biosurfactants are surface active biological compounds produced by microorganisms either extracellularly or cell bound. They possess the hydrophobic and hydrophilic moieties which give the enablement to reduce surface and interfacial tension of different solutions. The biosurfactants studies began as early as 1960s and their function keeps evolving in recent times. It has proven useful in the food, cosmetic, pharmaceutical, agricultural, environmental and medical fields. Of noteworthy is the discovery of their use in procuring solution for the current pandemic (Covid-19). However, there are still limitations in the study of biosurfactants which has to do with their large scale production, reduction of bioprocessing cost and discovery of more applications. Different methods such as optimization and mutation have been employed as a way to increase production. We are working towards identifying a novel biosurfactant towards a potential industrial application. The understanding of the microorganism utilized in production is also crucial to us. Acquiring a strain capable of high production and a good downstream process would in turn have a positive effect on the reduction of bioprocessing cost.

### Biography:

Oluwabusola Omolola Fatade is a doctoral student in Industrial Microbiology and Biotechnology at the Department of Microbiology, University of Ibadan, Oyo State, Nigeria. She holds a BSc in Microbiology from Ajayi Crowther University, Oyo, Nigeria and Masters in Environmental Microbiology from Babcock University, Ilishan-Remo, Ogun State. She was awarded



the 2018 TWAS-DBT Postgraduate Fellowship which gave her the opportunity to conduct part of her research at The Bharat Chattoo Genome Research Centre, Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India. Busola is interested in the manipulation of eukaryotic cells to get desired products.

### Publication of speakers:

1. Silva, R.C., Almeida, D.G., Luna, J.M., Rufino, R.D., Santos, V.A. and Sarubbo, L.A. 2014. Applications of biosurfactants in the petroleum industry and the remediation of oil spills. *International Journal of Molecular Science* 15(7):12523-12542.
2. Smith, M.L., Gandolfi, S., Coshall, P.M and Rahman, P.K. 2020. Biosurfactants: A Covid-19 Perspective. *Frontiers in Microbiology*. 11:1341

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