











- [6] Meenal Dukhande, Madhura Warde, "Isolation and Characterization of Potent Biosurfactant Producing Bacteria from Petroleum Contaminated Soil and Sea Water", IJERT Vol. 5 Issue 03, March-2016.
- [7] Orathai Pornsunthorntawe, Nampon Arttaweeporn, Sarawut Paisanjit, Pastra Somboonthanate, Masahiko Abe, Ratana Rujiravanit, Sumaeth Chavadej , "Isolation and comparison of biosurfactants produced by *Bacillus subtilis* PT2 and *Pseudomonas aeruginosa* SP4 for microbial surfactant-enhanced oil recovery" , Biochemical Engineering Journal, Volume 42, Issue 2, 1 November 2008, Pages 172-179.
- [8] Aparna A, Srinikethan G, Smitha Hegde, "Effect of addition of biosurfactant produced by *Pseudomonas* sps. on biodegradation of crude oil" IPCBEE vol.6 (2011).
- [9] [https://en.wikipedia.org/wiki/wilhemys\\_principle](https://en.wikipedia.org/wiki/wilhemys_principle).
- [10] Ainon Hamzah, Noramiza Sabturani & Shahidan Radiman, "Screening and optimization of biosurfactant production by the hydrocarbon-degrading bacteria" Sains Malaysiana 42(5)(2013): 615–623.
- [11] David E. Sadava, H. Craig Heller, Gordon H. Orians, William K. Purves, David M. Hillis, "E-Book for Life: the Science of Biology", 161-162.
- [12] Max m. Burger, Luis Glaser, and Robert Main Burton, "The Enzymatic Synthesis of a Rhamnolipid by Extracts of *Pseudomonas aeruginosa*", The Journal Of Biological Chemistry Vol. 238, No. 8, August 1963.
- [13] N. G. K. Karanth, P. G. Deo and N. K. Veenanadig, "Microbial production of biosurfactants and their importance"
- [14] A.R. Najafia, M.R. Rahimpour, A.H. Jahanmiri, R. Roostaazad, D. Arabian, M. Soleimani, Z. Jamshidnejad, "Interactive optimization of biosurfactant production by *Paenibacillus alvei* ARN63 isolated from an Iranian oil well" Colloids and Surfaces B: Biointerfaces Volume 82, Issue 1, 1 January 2011, Pages 33–39.
- [15] M. Irfan Maqsood and Asif Jamal, "Factors affecting the rhamnolipid biosurfactant production". Pak. J. Biotechnol. Vol. 8 (1) 1-5, 2011.

## Author Profile



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