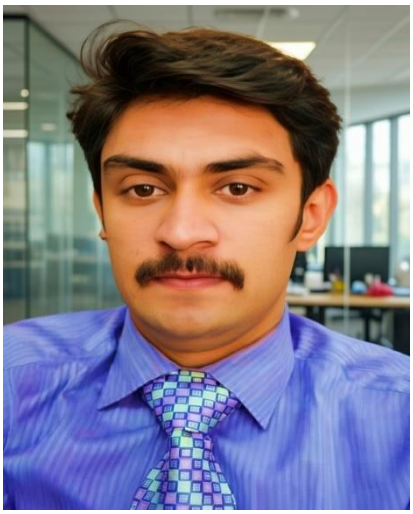


## Dr. Muhammad Saad Ahmed

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## Profile

Dr. Muhammad Saad Ahmed is an Assistant Professor in the Department of Biological Sciences at the National University of Medical Sciences (NUMS) in Rawalpindi, Pakistan, a position he has held since July 2019. He specializes in Biochemical Engineering, having earned his Ph.D. from the Beijing Institute of Technology, where his research focused on metabolic engineering and synthetic biology. Dr. Ahmed's primary research interests involve Synthetic Biology and Metabolic Engineering, specifically aimed at developing industrially competitive microbial strains to produce high-value metabolites such as fragrances, flavors, and pharmaceutical drugs. As of early 2026, he continues to contribute to the field through academic instruction and extensive research in industrial biotechnology and secondary metabolite production. He is a prolific researcher and has published several articles in high-impact factor journals, including Nucleic Acids Research, the Journal of Cleaner Production, ACS Synthetic Biology, American Institute of Chemical Engineers Journals, ACS Journal of Natural Products Chemical Engineering Science, Biochemical Engineering Journal, Applied Surface Science and Journal of Chemical Technology and Biotechnology etc. His extensive publication record underscores his significant contributions to industrial biotechnology.

## Research Interest

Metabolic Engineering, Synthetic Biology, Metabolites Production

## Selected Publications


Linlin Sun, … **Muhammad Saad Ahmed**, Xiaochen Liu, Zhansheng Wu. Engineered microbial consortium enhances tomato salt tolerance through rhizosphere modulation for sustainable crop production. **Journal of Cleaner Production.** 2026: 541: 147493. https://doi.org/10.1016/j.jclepro.2026.147493. **(Impact Factor: 10.0)**

**Muhammad Saad Ahmed,** et al., (March 22, 2021). Efflux transporter engineering and their application in microbial production of heterologous metabolites. **American Chemical Society Synthetic Biology**. 10(4): 646-669. https://doi.org/10.1021/acssynbio.0c00507. **(Impact Factor: 5.11).**

**Muhammad Saad Ahmed,** et al., (2019). Design and Construction of Short Synthetic Terminators for β-amyrin Production in *Saccharomyces cerevisiae*. **Biochemical Engineering Journal**. 146; 105-116. https://doi.org/10.1016/j.bej.2019.03.011. **(Impact Factor: 3.978).**

M.H. Saier… **Muhammad Saad Ahmed,** et al., (2016). The Transporter Classification Database (TCDB): recent advances. **Nucleic Acids Research.** 44; D372–379. DOI：10.1093/nar/gkv1103. **(Impact Factor: 19.16).**

A. Rasool, **Muhammad Saad Ahmed,** et al., (2016). Overproduction of Squalene synergistically downregulates ethanol production in *Saccharomyces cerevisiae*. **Chemical Engineering Science.** 152; 370-380. DOI: 10.1016/j.ces.2016.06.014. **(Impact Factor: 4.311).**

## Grants/Awards/Achievements

**Muhammad Saad Ahmed (Co-PI).** Title: *Enhanced Production of Omega-3 Fatty Acids from Mixotrophic Cultivation of Crypthecodinium cohnii and its Preclinical Safety Evaluation.* **National Research Program for Universities (NRPU) HEC. (14.23 million).**

**Muhammad Saad Ahmed (PI).** Title*: Selective Promoters Characterization of Saccharomyces cerevisiae.* **HEC-SRGP. (0.5 million).** (Accepted: June 05, 2020. Project Duration 12 months). Project No: 21-2605/SRGP/HRD/HEC/2020.

**Best Poster Award** *Metabolic Engineering Summit 2017, October 22-24, 2017; Beijing, China*

*Supporters/Organizers: International Metabolic Engineering Society (IMES), American Institute of Chemical Engineers (AIChE), Asian Federation of Biotechnology (AFOB),*

***Title of Poster: Engineered Saccharomyces cerevisiae for overproduction of β-amyrin using Synthetic Terminators.*** ***http://www.advancedsciencenews.com/advanced-awards-2017***

**Graduate Opportunity Fellowship,** Four Years, Merit-based Fellowship from the Chinese Govt in Beijing Institute of Technology, Beijing, China

**The Duke of Edinburgh International Bronze Medal**, 2005, United Kingdom (UK)