

SALMAN KHAN PROMON

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Research Interests

Cell and Molecular Biology, Oncology, Diagnostics, Regenerative medicine, 3D Bioprinting, Biomaterials, Prostheses

Education**Master of Science in Biotechnology**

School of Data and Sciences, Brac University, Dhaka, Bangladesh

Bachelor of Science in Biotechnology

School of Data and Sciences, Brac University, Dhaka, Bangladesh

Employments/ Work experiences:**Lecturer, Department of Life Sciences, Independent University, Bangladesh** (February, 2021 – present)

- Biotechnology and microbiology courses including genetics, cell & molecular biology, genetic engineering etc.
- Establishing IUB's life sciences lab, club and involving students into research and extra curricular activities.
- Help expanding IUB's outreach, research with national and international collaborations.

Lecturer, School of Data and Sciences, Brac University, Bangladesh (January, 2020 – January 2021)

- Taught biotechnology courses focused on GMO, molecular biology, genetic engineering etc.
- Involved students into research and extra curricular activities and supervised undergraduate level theses.
- Helped expanding research in Biomedical engineering, various national and international collaborations etc.
- Created job opportunities for BracU students and helped students in many of their start-ups.

Chief Operating Officer, Beyond Innovations & Technologies Limited, Bangladesh (October, 2018 – November 2019)

- Management of administration, HR, accounting/finance and other operations.
- Proposal and contracts, program management, organizational and business development etc.

Graduate Teaching Assistant, Life Sciences Programs, Brac University, Bangladesh (August, 2015 – October 2018)

- Conducted all the laboratory credit courses in the BracU life sciences program curriculum.
- Designed and established life sciences laboratory at Brac University.
- Won numbers of national and international awards and grants individually and with departmental involvement.
- Ideated, designed thesis projects for undergraduate and masters level students and trained them in the lab.

Academic Internship (Summer 2015)

- Centre for Diarrheal Disease Research (icddr), Focus: Immunology, Cell biology.
- Institute for Developing Science and Health Initiatives (ideSHi), Focus: Infection Biology, Genetic diseases.

Startups Founder (2019-)

- MECHAMIND (www.mechamind.io). Edu-Tech Company focused on STEAM based education for kids.
 - STAR Labs BD - The first Community Biolab in Bangladesh. Co working lab space available for rent.
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Skills & Competencies

- **Research/Laboratory based:** DNA/RNA isolation and purification, Isolation of plasmid, PCR, RT-PCR, Gel electrophoresis, Protein extraction and partial purification, SDS-PAGE, Western Blotting, Preparation of competent cell, Transformation, ELISA technique, Size exclusion column chromatography, Cell culture, Microbiological techniques, Bioinformatics tools.
- **Language:** Bengali (native), English (CEFR C1), Hindi & Urdu (speaking and listening), Spanish (starter's)
- **Software:** Microsoft Office, Bioinformatics tools, Adobe Photoshop, Illustrator and Premier Pro, Blender 3D, CURA 3.0, Filmora etc.
- **Industry:** Operation and management, evaluation, and market determination.

Research Activities

Ongoing Research/Projects:

- Isolation and cell inhibitory activity estimation of anticancer peptide azurin from *P. aeruginosa*.
- Development of experimental bioink and biomaterials using fungal cells for 3D bioprinting.
- 3D printed low-cost functional prosthetic arm (Mechanical, Voice command and EMG signal based).

Selected Journal Publications (Peer reviewed and only as First/Corresponding Author or PI/Co-PI):

1. **Promon, S.K.**, Kamal, W., Rahman, S.S., Hossain, M.M., Choudhury, N. (2018). Bioethanol production using vegetable peels medium and the effective role of cellulolytic bacterial (*Bacillus subtilis*) pre-treatment. *F1000Research*, 7:271.
2. Jamee, R., Araf, Y., Naser, I.B., **Promon, S.K.^C** (2021). The promising rise of bioprinting in revolutionizing medical science: Advances and possibilities. *Regenerative Therapy*, 18: 133-145. ISSN 2352-3204.
3. Akter, F., Araf, Y., Naser, I.B., **Promon, S.K.^C** (2021). Prospect of 3D Bioprinting over Cardiac Cell Therapy and Conventional Tissue Engineering in the Treatment of COVID-19 Patients with Myocardial Injury. *Regenerative Therapy*, ISSN 2352-3204.
4. Galib, M., Araf, Y., Naser, I.B., **Promon, S.K.^C** (2021). Prospects of 3D bioprinting as a possible treatment for cancer cachexia. *Journal of Clinical and Experimental Investigations*. JCEI-12880-2021.
5. Saha, S., Araf, Y., **Promon, S.K.^C** (2022). Circulating tumor DNA in cancer diagnosis, monitoring, and prognosis. *Journal of the Egyptian National Cancer Institute*, 34, 8. PMID: 35187602.
6. Pathogenesis and potential therapeutic application of stem cells transplantation in Huntington's disease. *Regenerative Therapy* (2022)
7. 3D Bioprinting for Regenerating COVID-19-Mediated Irreversibly Damaged Lung Tissue. *International Journal of Bioprinting* (2022)

Research/ Poster Presentations:

- Tursa, A., Akhter, F., Mirza, S., **Promon, S.K.** (May 2022). Development of 3D bioprinter and printing biomaterial. 1st Jamal Nazrul Islam National Conference. Chittagong, Bangladesh.
- Sarwar, F., **Promon, S.K.**, Jahan, N., Khan, T.T. (January 2018). Molecular detection of anticancer protein Azurin in native *Pseudomonas* isolates. The 10th AFOB Regional Symposium. Dhaka, Bangladesh.
- Momin, M., Mirza, N., **Promon, S.K.**, Hossain, M.M. (April 2017). Biochemical and molecular identification of lactic acid bacteria with antimicrobial properties isolated from fermented foods and analysis of associated proteins by SDS-PAGE. 30th Annual Conference organized by Bangladesh Society of Microbiologists (BSM). Dhaka, Bangladesh.
- **Promon, S.K.**, Shembil, S., Datta, D., Hossain, M.M. (February 2017). Isolation of *Lactobacillus spp* with antimicrobial properties. 1st International Congress organized by Global Circle for Scientific, Technological and Management Research (GCSTMR). Dhaka, Bangladesh.
- **Promon, S.K.**, Hossain, M.M., Choudhury, N. (January 2015) Isolation and characterization of *Saccharomyces cerevisiae* for the production of ethanol from organic sources. Conference of Biotechnology in Health and Agriculture (ICBHA) organized by Global Network of Bangladeshi Biotechnologists (GNOBB), Dhaka, Bangladesh.

Conferences/ Talks (selected):

- Nobel Prize Teacher Summit (September 2022), International teacher conference, Stockholm, Sweden.
- The Darwin International Conference (Nov 2019 and Dec 2020). Somaiya Vidyavihar, Mumbai, India.
- Global Community Biosummit. (2017- 2020). Massachusetts Institute of Technology (MIT), MA, USA.
- International Biotechnology Congress (2020) Intersectoral Technical Commission of Biotechnology, Guatemala.
- The Digital Naturalism Conference-Dinacon (July 2018). Koh Lon, Thailand.
- 3rd Global Network of Bangladeshi Biotechnologists (GNOBB) Conference (December 2017), Bangladesh.

Awards, Grants and Honours

- **"Best Poster Award"** (Bioengineering), 2nd International Conference on Genomics, Nanotech, and Bioengineering-2022 for the research titled 'Development of 3D bioprinter and printable biomaterials.'
- **"Brac University Alumni of Impact"** in recognition of achievements in academia, research and entrepreneurship.
- **First position** in 'MIST Inter- University ICT Innovation Fest' project showcasing (prosthetic arm) (2021).
- **Second runner-up** in the "Robot Nokshar Ashor" Daffodil International University, Bangladesh (2021).
- **Global Community Bio Fellowship** led by Abel Cano and Marshall Ganz from Harvard Kennedy School. Organized by Community Biotechnology Initiative, MIT Media Lab (2020).
- **Nick Sanders Kickstarter Award** by Masood Enterprise Centre (MEC), University of Manchester, UK (2020).
- **Design for Life award** for designing automated CPAP ventilator. EDGE Foundation, Dhaka, Bangladesh (2020).
- Honorable mention in the **"ACT COVID-19 Call for Nation Hackathon 2020"** for low-cost open source SARS-CoV-2 detection kit development. ICT Division, Bangladesh Government. Dhaka, Bangladesh (2020).
- **Champion, MINDSPARKS 2020** for designing a low-cost EMG signal and voice operated prosthetic arm. Organized by Ahsanullah University of Science and Technology in association with IIT, Roorkee, India (2020).
- **Monetary Grant** for prosthetic research. Dhaka University Microbiology Alumni Association (DUMAA) (2019).
- **1st Runner Up of 'The Geneva Challenge 2018'**, Designed system for tackling the challenges of climate change. International Contest for Graduate Students- organized by the Graduate Institute, Geneva, Switzerland (2018).
- **Travel Awards** in Global Community Bio Summit 2017, 2018 & 2019 organized by MIT Media Lab, MA, USA.
- **'Highest Distinction'** (BS in Biotechnology) in BRAC University convocation (2015).
- **Vice Chancellor's & Dean's Awards** for academic excellence, Department of MNS, Brac University (2012-2015).
- **'Reading Competition Award'** by British Council in association with Brac University (2012).
- **Farm-Fresh National Intercollege Science Fair Award**, Rajuk Uttara Model School & College, Bangladesh (2011).
- **Farm-Fresh National Intercollege Science Fair Award**, Rajuk Uttara Model School & College, Bangladesh (2010).
- Bangladesh government **Scholarship for Academic Excellence**, Kapasia Pilot High school, Bangladesh (2006).

Affiliations (selected)

- **Member**, Community Biotechnology Initiative (MIT Media lab, Massachusetts, USA) www.biosummit.org
 - **Member**, iGEM Human Practices Committee 2021 (Cambridge, MA, USA) www.igem.org/Human_Practices
 - **Rotarian** at Rotary Club Dhaka Mahanagar, Rotary International. www.rcdhakamahanagar.org
 - **Executive Committee Member**, Global Network of Bangladeshi Biotechnologists (GNOBB). www.gnobbb.org
 - **Founding Member** at CCRTB (Cancer Care and Research Trust, Bangladesh) www.ccrtd.org
 - **Founding Member**, Fab Lab Society, Dhaka, Bangladesh (open lab space for engineers, artists and more).
 - **Member**, American Society for Microbiology (ASM) www.asm.org
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References

1. Dr. M. Mahboob Hossain

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2. Prof. Dr. Shah M Faruque

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Dean, School of Environment & Life Sciences, Independent University Bangladesh (IUB), Dhaka, Bangladesh
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Teaching Experience

Lecturer, Independent University, Bangladesh (IUB)

Spring 2021- present

- BCB 203 : Cell Biology
- BCB 204 : Molecular Genetics
- BCB 206 : Molecular Biology
- BCB 304 : Recombinant DNA Technology
- BCB 305 : Molecular Biology Lab
- BCB 307 : Biotechnology and Genetic Engineering: Concepts and Applications
- BCB 308 : Endocrinology
- BCB 402 : Student Symposium in Biochemistry
- BCB 412 : Cellular and Molecular Neurobiology
- BIO 100 : Discoveries in Biology
- MCB 202 : Microbial Genetics
- MCB 204 : Human Physiology
- MCB 404 : Analytical Microbiology
- MCB 410 : Student Symposium in Microbiology
- MCB 450 : Senior Project/ Thesis
- MCB 451 : Internship in Microbiology

Lecturer, Brac University, Bangladesh

Spring 2020-Fall 2020

- BIO 101: Introduction to Biology
- BTE 402: GMOs & Biosafety
- BTE 101: Introduction to Genetic Engineering and Biotechnology
- BTE 450: Biotech Thesis/Project

Graduate Teaching Assistant, Brac University, Bangladesh

Fall 2015-Summer 2018

- Biotechnology Lab I, II, III and IV (3 credits lab courses)
- Microbiology Lab I, II, III and IV (3 credits lab courses)
- Assisting and training Thesis/Project students

Independent Teaching/ Training/ Workshops (2017-present)