

## 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](http://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.

### 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 (beginners)
- **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.<sup>C</sup>** (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.<sup>C</sup>** (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.<sup>C</sup>** (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.<sup>C</sup>** (2022). Circulating tumor DNA in cancer diagnosis, monitoring, and prognosis. *Journal of the Egyptian National Cancer Institute*, 34, 8. PMID: 35187602.
6. Neural implants: A review of current trends and future perspectives. *Informatics in Medicine* (Under review).

### 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. 30<sup>th</sup> 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.
- Comparative study of serum protein activity of blood against *Shigella flexneri* in urban and slum population of Bangladesh, Department of Mathematics & Natural Sciences, Brac University, Dhaka, Bangladesh (2017).

### Conferences/ Talks (selected):

- Nobel Prize Teacher Summit (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.
- 3<sup>rd</sup> Global Network of Bangladeshi Biotechnologists (GNOBB) Conference (December, 2017), Bangladesh.

\*Presentations, talks, workshops, projects etc. are available in the personal website.

## 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).

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### Affiliations (selected)

- **Member**, Community Biotechnology Initiative (MIT Media lab, Massachusetts, USA) [www.biosummit.org](http://www.biosummit.org)
  - **Member**, iGEM Human Practices Committee 2021 (Cambridge, MA, USA) [www.igem.org/Human\\_Practices](http://www.igem.org/Human_Practices)
  - **Rotarian** at Rotary Club Dhaka Mahanagar, Rotary International. [www.rcdhakamahanagar.org](http://www.rcdhakamahanagar.org)
  - **Executive Committee Member**, Global Network of Bangladeshi Biotechnologists (GNOBB). [www.gnobbb.org](http://www.gnobbb.org)
  - **Founding Member** at CCRTB (Cancer Care and Research Trust, Bangladesh) [www.ccrtd.org](http://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](http://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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# Teaching

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## Lecturer, Independent University, Bangladesh (IUB)

Spring 2021- present

- BCB 203 : Cell Biology : Cell Biology
- BCB 204 : Molecular Genetics
- 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
- MCB 451 : Internship in Microbiology