

CURRICULUM VITAE

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Faculty

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EXPERIENCE

Professor

Duration: March 2023- September 2023 and June 2025- Present

University: Department of Applied Nutrition and Food Technology, Faculty of Biological Sciences, Islamic University, Kushtia 7003, Bangladesh

Duties and responsibilities:

- Teach Food Biotechnology, Research Methodology, Industrial Microbiology and Molecular Biology courses to graduate and post graduate students.
- Act as a research supervisor to graduate and post graduate thesis group students in the area of bacteriology.
- Develop experimental methodology for bacteriology lab

Postdoctoral Associate

Duration: October 2023- May 2025

University: Department of Oral Biology, School of Dental Medicine, State University of New York at Buffalo, USA

Duties and responsibilities:

- Researched on oral microbiome.
- Investigated interspecies interaction of oral pathogen with commensal bacteria.
- Grew aerobic and anaerobic bacteria from clinical sub-gingival samples and create culture library
- Developed culturomics approach to grow oral bacteria from clinical samples
- 16s RNA sequencing and data analysis
- Analyzed bacterial morphology in phase contrast microscopy
- Bacterial biofilm and co-aggregation assay of clinical isolates

- Performed PCR, qPCR, bacterial DNA isolation and purification
- Mentored PhD students and undergraduate research students in the laboratory
- Wrote manuscript and maintained laboratory

Associate Professor

Duration: October 2020- March 2023

University: Department of Applied Nutrition and Food Technology, Faculty of Biological Sciences, Islamic University, Kushtia 7003, Bangladesh

Duties and responsibilities:

- Taught Food Biotechnology, Research Methodology, Industrial Microbiology and Fermentation Technology courses to post graduate students.
- Acted as a research supervisor to post graduate thesis group students in the area of bacteriology.

Visiting Researcher

Duration: April 2020- September 2020

University: Department of Oral Molecular Biology, Graduate School of Biomedical Sciences, Nagasaki University, Japan

Duties and responsibilities:

- Purified and characterized novel enzymes from pathogenic bacteria
- Explored the dipeptide incorporation and transport system of *Porphyromons gingivalis*.
- Grew anaerobic oral bugs.
- Maintain laboratory

Assistant Professor

Duration: September 2013- March 2020

University: Department of Applied Nutrition and Food Technology, Faculty of Biological Sciences, Islamic University, Kushtia 7003, Bangladesh

Duties and responsibilities:

- Taught Molecular Biology, Technology of fish, meat and dairy products, Food microbiology courses to post graduate and undergraduate students.
- Acted as a research supervisor to undergraduate thesis group students in the area of Microbiology and Molecular Biology research.

Lecturer

Duration: September 2010- September 2013

University: Department of Applied Nutrition and Food Technology, Faculty of Biological Sciences, Islamic University, Kushtia 7003, Bangladesh

Duties and responsibilities:

- Taught Human Biochemistry and General Microbiology courses to undergraduate students.
- Maintained bacteriology lab.

EDUCATION

Doctor of Philosophy (PhD)

University: Department of Oral Molecular Biology, Graduate School of Biomedical Sciences, Nagasaki University, Japan

Duration: March 2016- March 2020

Dissertation: Identification of dipeptidase from a periodontopathic bacterium *Prevotella intermedia*.

Master of Science (MSc)

University: Department of Applied Nutrition and Food Technology, Faculty of Biological Sciences, Islamic University, Kushtia-7003, Bangladesh

Duration: July 2006- June 2007 (Exam held in 2009)

Dissertation: Gas-Liquid Chromatographic Analysis of the TLC-purified fatty acid methyl ester of Mustard Oil attributes to the elimination of Erucic acid.

Bachelor of Science (BSc)

University: Department of Applied Nutrition and Food Technology, Faculty of Biological Sciences, Islamic University, Kushtia-7003, Bangladesh

Duration: July 2002- June 2006 (Exam held in 2008)

Dissertation: Preparation of chitosan and explore its application as food preservative.

Higher Secondary Certificate (HSC)

College: Cantonment College, Jashore, Bangladesh

Duration: July 1999- June 2001

Secondary School Certificate (SSC)

College: Jashore Zilla School, Jashore, Bangladesh

Duration: January 1994- June 1999

RESEARCH SKILLS

- Investigate inter-species interaction of oral bacteria
- Develop culturomics approach to grow oral bacteria from clinical samples
- Primer design, PCR, qPCR, Sanger sequencing, metagenomics, Sequencing data analysis
- Phase contrast microscopy
- Construction of plasmid, deletion mutation, expression of recombinant proteins
- Experiment with mice model
- HPLC, Talon Affinity Chromatography, SDS PAGE, immunoblotting, Bio-Rad Protein assay
- Real-time measurement of bacterial metabolism
- Gel chromatography, bacterial enzymes, protein purification, protein characterization

TRAINING AND SEMINARS

1. Sarwar Mohammad Tanvir, Yuko Ohara-Nemoto, Takeshi Kobayakawa, Mariko Naito, Takayuki K. Nemoto. Identification and characterization of an arginine aminopeptidase from *Prevotella intermedia*: Poster presentation at the 60th Annual Meeting of Japanese Association for Oral Biology at Kyushu University, Japan (5th September 2018) J Oral Biosci 60(Suppl):249, 2018

2. Sarwar MT, Ohara-Nemoto, Y, Toshio Ono, and Nemoto, TK. Identification of dipeptidase from a periodontopathic bacterium *Prevotella intermedia*: *Redefinition* of dipeptidase A of C69.001 family: Poster presentation at the 61st Annual Meeting of Japanese Association for Oral Biology at Tokyo Dental College (12th October 2019 to 14th October 2019). J Oral Biosci 61(Suppl):276, 2019

MEMBERSHIP

1. Member of American Society for Microbiology, Western New York Branch, October 2024 - May 2025
2. Member of the Japanese Association for Oral Biology, Japan 2018-2019.
3. Member of Applied Nutrition and Food Technology Society, Islamic University, Kushtia, Bangladesh 2010- present.

PEER REVIEW ACTIVITY

- [1] Synergistic combination of baicalein and rifampicin against *Staphylococcus aureus* biofilms, Muniyasamy R and Manjubala I (2024), *Front. Microbiol.* 15:1458267. doi: 10.3389/fmicb.2024.1458267
- [2] Exploring time-killing and biofilm inhibition potential of bioactive proteins extracted from two varieties of *Pleurotus ostreatus*, Gangwar R, Salem MM, Maurya VK, Bekhit MM, Singh N, Amara AAAF, Sahu RK and Ibrahim MA (2024), *Front. Microbiol.* 15:1456358. doi: 10.3389/fmicb.2024.1456358

RESEARCH FUNDING

Funding body: Bangladesh - Higher Education Quality Enhancement Project. Washington, D.C.: World Bank Group

HEQEP Project: AIF,3rd Round, Window-1, CP No:3338

Project title: Quality Enhancement of Teaching and Learning on Nutrition Science and Food Processing Through Integration on Modern Technology

My role in the project: Co-investigator

Duration: 3 Years (2015- 2018)

Amount: 10000000 taka/ 81000 USD

KEY PUBLICATIONS

- [1] *Chapter 13 - Synbiotics: Combination delivery of prebiotics and probiotics*, Sri Bagavathi Perumal RB , Santhosh Hariprakash , A. Liyana Sherin , Harinarayana Ankamreddy, Vaidyanathan Vinoth Kumar, **Mohammad Tanvir Sarwar** , Vinothkannan Ravichandran, Durga Mohan, Satish Kumar Rajasekharan, *Advances in Probiotic Delivery Systems*, 2025, Pages 329-370
- [2] *Expanded substrate specificity supported by P1' and P2' residues enables bacterial dipeptidyl-peptidase 7 to degrade bioactive peptides*, Yu Shimoyama, Toshio Ono, **Mohammad Tanvir Sarwar**, Manami Nakasato-Minoru Sasaki-Takayuki K.Nemoto,J. Biol. Chem. (2022) 298(3) 101585 , DOI: <https://doi.org/10.1016/j.jbc.2022.101585>
- [3] *Antibiotic Resistance Pattern of Clinical Isolates - Escherichia coli, Enterobacter, Pseudomonas and Staphylococcus aureus in the Western of Bangladesh*. Mohammad Golam Sakline1, Dabashis Roy, Tanvir Ahmad, Shaikh Shahinoor Rahman, Shakh Mohammad Abdur Rouf, Mosammat Nazira

Akhter Rithu, Mohammad Mizanur Rahman, **Mohammad Tanvir Sarwar**, *Frontiers in Environmental Microbiology*, 2021; 7(2): 69-73

- [4] *Preferential dipeptide incorporation of Porphyromonas gingivalis mediated by proton-dependent oligopeptide transporter (Pot)*, Yuko Ohara-Nemoto, **Mohammad Tanvir Sarwar**, Yu Shimoyama, Takeshi Kobayakawa, Takayuki K Nemoto, *FEMS Microbiol Lett.* 2020 Dec 18:fnaa204. DOI: 10.1093/femsle/fnaa204
- [5] *Characterization of substrate specificity and novel autoprocessing mechanism of dipeptidase A from Prevotella intermedia*. **Sarwar MT**, Ohara-Nemoto Y, Kobayakawa T, Naito M, Nemoto TK. *Biol Chem.* 2020 Apr 28;401(5):629-642. DOI: 10.1515/hsz-2019-0387
- [6] Preparation of Chitosan and Its Application on Ginger Paste and Fruit Juice as Food Preservative, **Mohammad Tanvir Sarwar**, Md. Sidur Rahman, Md. Zakir Hossain, and M. Mashiul Alam, *Journal of Food and Nutrition Sciences*. 2014, Vol 2(6), pp. 243-249.
- [7] *Determination of Erucic acid content in traditional and commercial mustard oils of Bangladesh by Gas- Liquid Chromatography*, **Md. Tanvir Sarwar**, Md. Hafizur Rahman, Md. Salim Raza, Shakh M. A. Rouf, Md. Nazibur Rahman, *Advances in Biochemistry* 2014; 2(1): 9-13