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Academic Qualifications:

Degree	Subject	Institution	Result	Year
Ph.D.	Bacteriology/ Microbiology	Karolinska Institutet, Stockholm Sweden	Degree Awarded	March, 2008
M.Sc.	Biochemistry	University of Dhaka, Bangladesh	First Class 7 th Position	1997 (Degree Awarded 2000)
B.Sc.	Biochemistry	University of Dhaka, Bangladesh	First Class 11 th Position	1996 (Degree Awarded 1998)

Professional Appointments

8. Professor, Dept. of Biochemistry & Microbiology, North South University	May 2019 to Date
7. Chairman, Dept. of Biochemistry & Microbiology, North South University	May 2016 to July 2020
6. Associate Professor, Department of Biochemistry & Microbiology, North South University, Dhaka, Bangladesh	March 2015 to April 2019
5. Assistant Professor, Dept. of Biochemistry & Microbiology, North South University	May 2010- March 2015
4. Assistant Professor (Part Time), Department of Biochemistry & Microbiology, North South University, Dhaka, Bangladesh	January 2010- May 2010
3. Postdoctoral Associate, Department of Molecular Genetics and Microbiology at Dr. Jorge A. Giron's Lab, University of Florida, Gainesville, FL, USA	January 2009 - October 2009
2. Postdoctoral Associate, Department of Immunobiology at Dr. Jorge a. Giron's Lab, University of Arizona, Tucson, AZ, USA	April 2008 - December 2008
1. Research Associate, Immunology Laboratory, Laboratory Science Division, icddr, b, Dhaka, Bangladesh	January 2000 - June 2001

Teaching Experiences:

4. Professor at the Dept. of Biochemistry & Microbiology, North South University
-May 2020 to date
 - Courses taught: Bio-organic Chemistry I & II, Molecular Genetics, Cell Biology, Chemistry of Natural Products, Neurochemistry
 - Supervised research projects of undergraduate students and dissertations of graduate students
3. Associate Professor at the Dept. of Biochemistry & Microbiology, North South University
-March 2015 to April 2019
 - Courses taught: Bio-organic Chemistry II, Molecular Genetics, Endocrinology, Cell Biology, Chemistry of Natural Products, Microbial Biotechnology
 - Supervised research projects of undergraduate students and dissertations of graduate students
2. Assistant Professor at the Dept. of Biochemistry & Microbiology, North South University
-May 2010 - March 2015
 - Courses taught: Introduction to Biochemistry & Biotechnology Laboratory, Bio-organic Chemistry I, Bio-organic Chemistry II, Human Physiology, Molecular Genetics, Endocrinology, Cell Biology, Neurochemistry
 - Supervised research projects of undergraduate students and dissertations of graduate students
1. Assistant Professor (Part-time) at the Dept. of Biochemistry & Microbiology, North South University
-January 2010 - May 2010
 - Courses taught: Introduction to Biochemistry & Biotechnology Laboratory, Human Physiology, Molecular Genetics

Research & Professional Experiences:

ORCID ID: <https://orcid.org/0000-0003-4003-2544>

Google Scholar: <https://scholar.google.com/citations?user=S-vNwWIAAAAJ&hl=en>

4. Department of Biochemistry & Microbiology, School of Health & Life Sciences, North South University
Ongoing research involving but not limited to,
 - Determination of molecular mechanism of antimicrobial resistance by using Next Generation Sequencing in clinical and environmental bacterial isolates.
 - Detection of multidrug-resistant variants of Gram-ve bacteria like *P. aeruginosa*, and *K. pneumoniae* by using Next Generation Sequencing.
 - Finding the association of candidate gene polymorphisms in cancer & cardiovascular disease by using *in silico* analysis
 - Differential gene expression in the intestine of Silkworm *Bombyx mori* in response to multidrug-resistant and pathogenic bacterial infection.
 - Efflux-mediated antimicrobial resistance mechanism in Gram-ve Bacteria.
 - Determination & distribution of foodborne pathogens & their antibiotic resistance pattern.
 - Antimicrobial & antioxidant activities of locally available natural products.

3. Department of Immunobiology, University of Arizona, Tucson, AZ, USA and Department of Molecular Genetics and Microbiology, University of Florida, Gainesville, FL, USA (*Postdoctoral Research*)

Characterization of adherence factors and auto-transporter in enteroaggregative *E. coli* (EAEC), design and perform experiments to,

- Study the proteins involved in attachment and cytotoxicity of EAEC to different cell lines,
- Study the involvement of receptors on mammalian cancer cells involve in the adherence of *E. coli*
- Cloning, expression and purification of recombinant protein involved in pili biogenesis
- Use front-end techniques of molecular biology and proteomics
- Study the adherence and infection of EAEC *in-vitro*
- Collaborate with different projects in our group, connected with the same general aim
- Immunofluorescence and Immunoelectron microscopy (Transmission and Scanning) for direct identification and/or visualization of cellular processes

2. Department of Laboratory Medicine, Karolinska Institute, Stockholm, Sweden (*Ph.D. Research*)

- Doctoral Study on Antibiotic resistance mechanisms in Gram-negative bacteria. The major focus of the study was chromosomally mediated fluoroquinolones resistance mechanisms in clinical samples of *Neisseria gonorrhoeae* & aminoglycosides and carbapenems resistance mechanisms in *Pseudomonas aeruginosa* isolates from cystic fibrosis patients. More at, <https://openarchive.ki.se/xmlui/handle/10616/39761>.

1. International Centre for Diarrheal Disease Research, Bangladesh (*Employment Tenure*)

- Isolation and identification of the pathogens from blood and nasopharyngeal aspirate from children less than three years of age suffering from acute lower respiratory tract infections (ALRI) by using classical microbial to advanced molecular techniques.
- Analysis of immune response by numerous immunological methods to establish a relationship between immune response and pathogenicity of specific type of microorganism
- Establishment and optimization of PCR for *S. pneumoniae* and *H. influenza* detection from blood and NPA samples from Bangladeshi patients
- Assay of viral agents causing disease in children with ARI by ELISA

Publications:

24. Sharmin, Ayesha, Md Abdul Hai, Md Mainul Hossain, Mohammad Moshir Rahman, Md Baki Billah, **Sohidul Islam**, Mohammad Jakariya, and Garon C. Smith. 2020. "Reducing Excess Phosphorus in Agricultural Runoff with Low-Cost, Locally Available Materials to Prevent Toxic Eutrophication in Hoar Areas of Bangladesh." *Groundwater for Sustainable Development* 10 (April). <https://doi.org/10.1016/j.gsd.2020.100348>.
23. Parvez, M.A.K., K. Saha, J. Rahman, R.A. Munmun, M.A. Rahman, S.K. Dey, M.S. Rahman, **S. Islam**, and M.H. Shariare. 2019. "Antibacterial Activities of Green Tea Crude Extracts and Synergistic Effects of Epigallocatechingallate (EGCG) with Gentamicin against MDR Pathogens." *Heliyon* 5 (7). <https://doi.org/10.1016/j.heliyon.2019.e02126>.
22. A. S. M. Zisanur Rahman, Aritra Bhattacharjee, Abdullah All Jaber, Maqsd Hossain, Kazi Nadim Hasan, **Sohidul Islam** and Zaid Ahmed Bhuyan*. 2020. High-Risk Non-Synonymous SNPs of

Human Bcl-2 Gene Alters Structural Stability and Small Molecule Binding | Bioresearch Communications-(BRC). Bioresearch Communications-(BRC). Vol. 6. GBA. <https://www.bioresearchcommunications.com/index.php/brc/article/view/20>.

21. Ahammad, Ishtiaque, Md Rafiul Islam Sarker, Akib Mahmud Khan, **Sohidul Islam**, and Mahmud Hossain. 2019. "Virtual Screening to Identify Novel Inhibitors of Pan ERBB Family of Proteins from Natural Products with Known Anti-Tumorigenic Properties." *International Journal of Peptide Research and Therapeutics*, December, 1–16. <https://doi.org/10.1007/s10989-019-09992-3>.
20. Hamza Bin Manjur, Omar, Akib Mahmud Kaha, Hamida Nooreen Mahmood, **Sohidul Islam**, and Mahmud Hossain. 2019. "Role of Autophagy in Cancer: Mechanistic and Therapeutic Understanding from the Cellular and Molecular Point of View." In *Trends in Biochemistry & Molecular Biology*, edited by Hossain Uddin Shekhar and Islam. MM Towhidul, 1st ed., 233–58. New York: NOVA SCIENCE PUBLISHERS, INC. <https://novapublishers.com/shop/trends-in-biochemistry-and-molecular-biology/>.
19. Parvez, M.A.K., K. Saha, J. Rahman, R.A. Munmun, M.A. Rahman, S.K. Dey, M.S. Rahman, **S. Islam**, and M.H. Shariare. 2019. "Antibacterial Activities of Green Tea Crude Extracts and Synergistic Effects of Epigallocatechingallate (EGCG) with Gentamicin against MDR Pathogens." *Heliyon* 5 (7). <https://doi.org/10.1016/j.heliyon.2019.e02126>.
18. Hossain, Maqsd, Munirul Alam, Abdul Khaleque, **Sohidul Islam**, Abdus Sadique, Nayeim Khan, Zahra Halim, et al. 2018. "Virulence-Related Genes Identified from the Genome Sequence of the Non-O1/Non-O139 *Vibrio cholerae* Strain VcN1, Isolated from Dhaka, Bangladesh." *Genome Announcements* 6 (10): 1–2. <https://doi.org/10.1128/genomeA>.
17. Hossain, Md Jakir, Shashwata Biswas, Mohammad Shahriar, Maisha Mosharrat Chowdhury, **Sohidul Islam**, Chowdhury Rafiqul Ahsan,. 2018. "Phytochemical Screening, Antimicrobial Activity, Antioxidant Capacity and *in vivo* Anticancer Activity of *Lannea coromandelica* Bark Extracts." *IOSR Journal of Pharmacy and Biological Sciences Ver. II* 13 (3, Ver II): 19–25. <https://doi.org/10.9790/3008-1303021925>.
16. Jain, Mukesh, **Sohidul Islam**, A S M Zisanur Rahman, Sharmin Akhtar, Nadim Kazi, Hasan, Uddin Gias, Ahsan, Abdul Khaleque, and Maqsd Hossain. 2018. "Molecular Analysis of Hemagglutinin, Neuraminidase, Matrix Genes Provide Insight into the Genetic Diversity of Seasonal H3N2 Human Influenza a Viruses in Bangladesh during July–August, 2012." *VirusDisease*. <https://doi.org/10.1007/s13337-018-0431-y>.
15. Chowdhury, Abhinandan, **Sohidul Islam**, and Ramen Chowdhury. 2018. "Antibacterial Activity of Bangladeshi Raw and Commercial Honey Against *Staphylococcus aureus*." *Novel Approaches in Drug Designing & Development* 4 (1). <https://doi.org/10.19080/NAPDD.2018.04.555626>.
14. Parvez, Md. Anowar Khasru, Rabeya Nahar Ferdous, Md. Shahedur Rahman, and **Sohidul Islam**. 2018. "Healthcare-Associated (HA) and Community-Associated (CA) Methicillin Resistant *Staphylococcus aureus* (MRSA) in Bangladesh – Source, Diagnosis and Treatment." *Journal of Genetic Engineering and Biotechnology*, June. <https://doi.org/10.1016/J.JGEB.2018.05.004>.
13. Jakir Hossain, Md, Shashwata Biswas, Mohammad Shahriar, **Sohidul Islam**, and Chowdhury Rafiqul Ahsan. 2018. "In Vivo Anticancer Activity on Ehrlich Ascites Carcinoma (EAC) Cells and *in vitro* Antimicrobial Activity of *Psidium guajava* Bark Extracts." *Bangladesh Journal of Microbiology* 35 (June): 79–81.
12. Nadim Hasan, Kazi, Md Abdul Khaleque, Nahian Anjum Shejuti, Tanzila Wasi, and **Sohidul Islam**. 2017. "Prevalence of Hepatitis B Virus Seromarkers and Associated Risk Factors in Young Healthy

- Individuals in Bangladesh: Implications for Preventive Strategies." *Hepatitis Monthly* 17 (6). <https://doi.org/10.5812/hepatmon.14245>.
11. Hasan, Kazi Nadim; Wasi, Tanzila; Shejuti, Nahian Anjum; Afjal, Aniq; **Islam, Sohidul**. 2017. "Comparative Evaluation of Two Rapid Diagnostic Test Devices and Real Time PCR for the Detection of Hepatitis B Surface Antigens in Human Plasma: Implications in Blood Donation Screening." *Joint International Tropical Medicine Meeting*. Bangkok. www.jitmm.com/proceeding.
 10. **Islam, Sohidul**, Obaidur Rahman, Mahmud Hossain, and Abdul Khaleque. 2015. "Antioxidant Activity of Some Common Seasonal Fruits of Bangladesh." *Biores Comm* 1 (11): 28–31.
 9. Hasan, Kazi Nadim; Nasrin, Fahmida; Taher, M Abu; **Islam, Sohidul**; Rahman, Obaidur; Jabeen, Ishrat; Khaleque, M Abdul; Akhteruzzaman, Sharif. 2012. "Comparative Analysis of Hepatitis C Virus (HCV) RNA, Anti-HCV and Liver Transaminase Levels as Markers and Predictors of Infectivity in HCV Infection." *Bangladesh Journal of Medical Science* 18 (2): 120–25.
 8. Rahman, Obaidur, Nadim Kazi Hasan, Md Abdul Khaleque, Ishrat Jabeen, and **Sohidul Islam**. 2012. "Dietary Intake of Urea from Puffed Rice (Muri) in Bangladesh." *Bangladesh Journal of Medical Science* 18 (01): 58–61.
 7. **Islam, Sohidul**; Meem, Lamyah Sultana; Hasan, Kazi Nadim; Khaleque, M Abdul; Rahman, Obaidur. 2012. "Multidrug Resistance of *Pseudomonas aeruginosa* Isolated from Burn Patients." *Bangladesh Journal of Medical Science* 18 (02): 132–34.
 6. Andrésen, Cecilia, Shah Jalal, Daniel Aili, Yi Wang, **Sohidul Islam**, Anngelica Jarl, Bo Liedberg, Bengt Wretlind, Lars-Göran Mårtensson, and Maria Sunnerhagen. 2010. "Critical Biophysical Properties in the *Pseudomonas aeruginosa* Efflux Gene Regulator MexR Are Targeted by Mutations Conferring Multidrug Resistance." *Protein Science : A Publication of the Protein Society* 19 (4): 680–92. <https://doi.org/10.1002/pro.343>.
 5. Avelino, Fabiola, Zeus Saldaña, **Sohidul Islam**, Valerio Monteiro-Neto, Monique Dall'Agnol, Carlos A Eslava, and Jorge A Girón. 2010. "The Majority of Enteroaggregative *Escherichia coli* Strains Produce the *E. coli* Common Pilus When Adhering to Cultured Epithelial Cells." *International Journal of Medical Microbiology : IJMM* 300 (7): 440–48. <https://doi.org/10.1016/j.ijmm.2010.02.002>.
 4. **Islam, S**, H Oh, S Jalal, F Karpati, O Ciofu, N Høiby, and B Wretlind. 2009. "Chromosomal Mechanisms of Aminoglycoside Resistance in *Pseudomonas aeruginosa* Isolates from Cystic Fibrosis Patients." *Clinical Microbiology and Infection : The Official Publication of the European Society of Clinical Microbiology and Infectious Diseases* 15 (1): 60–66. <https://doi.org/10.1111/j.1469-0691.2008.02097.x>.
 3. Farra, Anna, **Sohidul Islam**, Annelie Strålfors, Mikael Sörberg, and Bengt Wretlind. 2008. "Role of Outer Membrane Protein OprD and Penicillin-Binding Proteins in Resistance of *Pseudomonas aeruginosa* to Imipenem and Meropenem." *International Journal of Antimicrobial Agents* 31 (5): 427–33. <https://doi.org/10.1016/j.ijantimicag.2007.12.016>.
 2. Lindbäck, Emma, **Sohidul Islam**, Magnus Unemo, Camilla Lang, and Bengt Wretlind. 2006. "Transformation of Ciprofloxacin-Resistant *Neisseria Gonorrhoeae* GyrA, ParE and PorB1b Genes." *International Journal of Antimicrobial Agents* 28 (3): 206–11. <https://doi.org/10.1016/j.ijantimicag.2006.04.003>.
 1. **Islam, S**, S Jalal, and B Wretlind. 2004. "Expression of the MexXY Efflux Pump in Amikacin-Resistant Isolates of *Pseudomonas aeruginosa*." *Clinical Microbiology and Infection : The Official Publication of the European Society of Clinical Microbiology and Infectious Diseases* 10 (10): 877–83. <https://doi.org/10.1111/j.1469-0691.2004.00991.x>.

Presentations in Scientific Conferences:

- Joint International Tropical Medicine Meeting, **2016**
- International Conference on Genomics, Nanotech & Bioengineering, **2017**
- 16th European Congress of Clinical Microbiology and Infectious Diseases Nice, France, April 1-4, 2006 – Oral presentation (Abstract Number: O126)
- 15th European Congress of Clinical Microbiology and Infectious Diseases Copenhagen, Denmark, April 2-5, 2005 – Poster presentation (Abstract Number: 1134_03_48)
- 103RD General Meeting American Society for Microbiology Washington, DC; May 18- 22, 2003 – Poster presentation (Poster Number A-149)
- 12th European Congress of Clinical Microbiology and Infectious Diseases Milan, Italy, April 21-24, 2002 – Poster presentation (Abstract Number: P1072)

Awards, Grants & Honors

- Research Grant from NSU CTRG in 2018-19 for the project entitled “Molecular mechanism in multidrug resistance in hypermutable bacteria isolated from ICU patients.”
- Research grant from Ministry of Education, Govt. of Bangladesh in 2016-17 for the Project entitled "Evaluation of Lead Induced Neurotoxicity in Mouse Brain and other Tissues" in collaboration with Dr. Mahmud Hasan from Dept. of Molecular Biology, University of Dhaka
- Research Grant from NSU CTRG in 2014-15 for the project entitled “Screening for Enzyme-producing Microorganisms in order to utilize in industry, Bioremediation and Biodegradation.”
- Funding for Ph.D. education from Karolinska Institute and AFA Health Agency, Sweden
- Scholarship from the Department of Biochemistry & Molecular Biology, University of Dhaka, for outstanding result for the year 1997- 1998

Certificates and Trainings

- Shipping and transport of Biological Materials, University of Florida (2009)
- Methods and Applications in Molecular Biology & Biotechnology, (2C), Karolinska Institutet (2005)
- Molecular techniques in Biology with special focus on Microarray Technique, (2C) KI (2005)
- Molecular Methods used in the Control of Hospital Infections, (1C), KI (2005)
- Laboratory Animal Science, (3C), KI (2004)
- Ecology and the Importance of indigenous flora, (1C), KI (2004)
- Bioinformatics on the Internet – Introduction for Molecular Biologists, (1pt), KI (2004)
- Novel Practical Biotechnology, (1C), KI (2003)
- Core courses in General Science, (5C) KI (2003)
- Immunology Basic Course, (1C) KI, (2002)
- Basic course in Clinical Bacteriology, (5C), KI (2002)

Professional Organizations Memberships:

- American Society for Microbiology
- Graduate Biochemists Association, Bangladesh
- Bangladesh Biosafety and Biosecurity Association
- Bangladesh Society for Biochemistry and Molecular Biology
- Dhaka University Alumni Association