Kazi Md Mostafizur Rahman, PhD

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Researcher and educator with a strong record of teaching and thesis supervision across undergraduate and postgraduate programs. Publish in top-tier peer-reviewed journals, present regularly at international conferences, and serve on academic committees.

Professional Appointments

2024-Present **Assistant Professor of Microbiology**
Department of Biochemistry & Microbiology
North South University, Dhaka, Bangladesh

2019-2023 **Instructor of Biomedical Science MS Program (Adjunct)**
Hood College, Frederick, Maryland, USA

2017-2023 **Postdoctoral Associate/Research Fellow**
National Institutes of Health (NIH), Frederick, Maryland, USA

Education

2017 **Ph.D. in Biochemistry and Molecular Biology**
University of Georgia, Athens, Georgia, USA (GPA 4.0/4.0)

2011 **Master of Science in Biological Chemistry**
Yamaguchi University, Yamaguchi, Japan (Grade-A)

2008 **Master of Science in Microbiology**
University of Dhaka, Dhaka, Bangladesh (1st Class -4th)

2007 **Bachelor of Science in Microbiology**
University of Dhaka, Dhaka, Bangladesh (1st Class- 6th)

Research Experience

2017- 2023 **National Cancer Institute, Frederick, Maryland, USA**
Postdoctoral fellow, Research Focus: Cellular transmembrane proteins in the restriction of virus entry & fusion. Mentor: Alex Compton, PhD

2015-2017 **University of Georgia, Athens, Georgia, USA**
Predoctoral fellow, Research Focus: Role of Skp1 modification in Toxoplasma gondii oxygen sensing. Mentor: Christopher West, PhD

2011-2015 **University of Oklahoma Health Sciences Center (OUHSC), Oklahoma, USA**
Predoctoral fellow, Research Focus: Role of Skp1 modification in Toxoplasma gondii oxygen Sensing. Mentors: Ira Blader, PhD & Christopher West, PhD (Moved with Dr. Christopher West from OUHSC to the University of Georgia on 2015)

2009-2011 **Yamaguchi University, Yamaguchi, Japan**
Research Focus: Role of Cne1p in yeast protein quality control. Mentor: Azakami Hirouki.

Awards and Recognitions

2022	Winner of the Fellows Award for Research Excellence (FARE) award - NIH
2021	"Best Paper Award" by Dhaka University Microbiology Alumni Association (DUMMA)
2017-2018	National Cancer Institute Technology Transfer Ambassador
2016	'Paper of the week' recognition by the *Journal of Biological Chemistry* editorial board
2015	Travel Award for attending Society for Glycobiology meeting
2009-2011	Japanese Government (MEXT) Scholarship for the MS study at Yamaguchi University, Japan
2007-2008	Provost Award for 1st class marks in BS & MS in Microbiology, Univ. of Dhaka Bangladesh

Publications (Selected)

- Isaiah Wilt, **Kazi Rahman**, et al and Alex A. Compton. IFITM1 and IFITM3 cooperate to restrict virus entry in endolysosomes. *(Under Review:* ***bioRxiv*** *- doi: https://doi.org/10.1101/2025.06.01.657267)*
- Md Raihan Islam, Tamanna Hossen, **Kazi Rahman** et and SM Bakhtiar UL Islam. Draft genome sequence of *Salmonella enterica* subsp. *enterica* serovar Typhimurium SBI_US10_MRI_BD isolated from broiler chicken in Bangladesh. ***Microbiology Resource Announcements,*** 2026, *https://doi.org/10.1128/mra.01203-25*
- Jannatul Shifa, Tasbir Amin, Md Fakruddin, **Kazi Rahman**, SM Bakhtiar Ul Islam. Unveiling the Paradoxical Nature of Autophagy in Cancer Cell Fate. ***Cancer Control****, 2025, https://doi.org/10.1177/10732748251384365*
- Mahjabin Sanam, Chowdhury Fatema Tuz Zohra Hossain, **Kazi Rahman** et al and Md. Fakruddin. Bridging two worlds: Host Microbiota crosstalk in health and dysregulation. ***Innate Immunity,*** *PMCID: PMC12576186*
- **Kazi Rahman**, Isaiah Wilt, Alex A. Compton. SNARE mimicry by the CD225 domain of IFITM3 enables regulation of homotypic late endosome fusion. ***EMBO Journal.*** *2024; PMID: 39653855*
- Nelly Mak,Dan Zhang, Xiaomeng Li, **Kazi Rahman**, Alex A. Compton, Richard D. Sloan. Alternative splicing expands the antiviral IFITM repertoire in Chinese horseshoe bats. ***PLOS Pathogens****. 2024; PMID: 39724110*
- **Kazi Rahman**, Siddhartha A.K. Datta, Alex Compton. Cholesterol binds the amphipathic helix of IFITM3 and regulates antiviral activity. ***Journal of Molecular Biology.*** *2022; PMID: 35872070*
- **Kazi Rahman**, Alex A. Compton. The indirect antiviral potential of long non-coding RNAs encoded by IFITM pseudogenes. ***Journal of Virology.*** *2021; PMID: 34319781*
- **Kazi Rahman*,** Coomer C*, Compton A. CD225 proteins: a family portrait of fusion regulators. ***Trends in Genetics,*** *2021, PMID: 33518406* (**equal contribution)*
- **Kazi Rahman*,** Coomer C*, Majdoul S, Ding S, Padilla-Parraand S Compton A. Homology-guided identification of a conserved motif linking the antiviral functions of IFITM3 to its oligomeric state. ***eLife.*** *2020 PMID: 33112230 (*equal contribution)*
- Yadvinder S Ahi, Diborah Yimer, Saliha Majdoul, **Kazi Rahman**, Alex A Compton *et al*. IFITM3 reduces retroviral envelope glycoprotein and is counteracted by glycoGag. ***mBio*** *2020; PMID: 31964738*
- Msano Mandalasi, Hyun W Kim, David Thieker, **Kazi Rahman**, Peng Zhao, Nitin G Daniel, Hanke van der Wel, H Travis Ichikawa, John N Glushka, Lance Wells, Robert J Woods, Zachary A Wood, Christopher M West. A terminal α3-galactose modification regulates an E3 ubiquitin ligase subunit in *Toxoplasma gondii*. ***J. Biol. Chem.*** *2020; PMID: 32414843.*
- **Kazi Rahman**, Msano Mandalasi, Peng Zhao, M Osman Sheikh, Rahil Taujale, Hyun W Kim, Hanke van der Wel, Khushi Matta, Natarajan Kannan, John N Glushka, Lance Wells, Christopher M West. Characterization of a cytoplasmic glucosyltransferase that extends the core trisaccharide of the *Toxoplasama* SKP1 E3 ligase subunit. ***J. Biol. Chem.*** 2017. *PMID: 28928220*
- **Kazi Rahman**, Peng Zhao, Msano Mandalasi, Hanke van der Wel, Lance Wells, Ira J Blader, Christopher M West. The E3 ubiquitin ligase adaptor protein Skp1 is glycosylated by an evolutionary conserved pathway that regulates protist growth and development. ***J. Biol. Chem.*** *2016, PMID: 26719340 (Selected as JBC paper of the week due to significance of the work)*

Additional Teaching & Mentoring Experiences

Teaching Certificate, National Institutes of Health, USA (2019)

- Achieved training on Active learning methods such as Bloom's Taxonomy of learning, create and assessment of student learning, overcoming discrimination, and bias in the classroom.
- Trained in management of online teaching, curriculum design, syllabus generation.

Mentoring activities

- Mentored many summer undergraduate and graduate students at NSU and PhD graduate students at NIH (2017- 2023)

Volunteer activities

- Lead Judge (Oral presentation): 2021 Postbac Research Presentation, NIH, 2021
- Judge (poster presentation): Summer Undergrad. Research Program, OUHSC, April 2014
- Judge (Oral presentation): Summer Undergrad. Research Program, Univ. of Georgia, 2017

Relevant laboratory and Computational Biology Skills

Computational Biology Skills (GitHub link: *https://github.com/Kazi-Rahman20*)

- Experienced in utilizing public databases, including BLAST, Ensembl, UCSC genome browser; pathway analysis tools DAVID and IPA, RNA-seq analysis (hands-on training), Phylogenetic tree generation
- Experienced in utilizing basic Python packages for data analysis

Wet-lab skills:

- **Gene editing:** Knocked out a retrogene using **CRISPR/Cas9** based method**.** Proficient in **RNAi**.
- **Molecular/Biochemical assays:** Developed a novel Sequence- and ligation-independent cloning (SLIC) method, proficient in traditional cloning, Immunoprecipitation, Co-IP & proteomics, enzyme assays.
- **Virology/Parasitology:** Experienced in infection assays with HIV-1, Influenza A, *Toxoplasma gondii*

Professional Affiliation

2015 - Member, Bangladesh Society for Microbiologists (BSM)
2021 – Member, International Society of Bangladesh-Affiliated Microbiologists (ISBM)
2020 - Associate Member, American Society for Virology (ASV)

Funding

PI: "Reducing Dependency, Building Capacity: Indigenous Thermostable DNA Polymerase Discovery for Biotech Research in Bangladesh" – 2025 – CTRG NSU (7,50,000 BDT)

Co-PI: Fish-Derived Lactic Acid Bacteria, as Biocontrol Agent to Prevent Uropathogenic Bacterial Biofilms on Female Healthcare Products" – 2025 NSU CTRG- (7500000 BDT) (**PI**- Dr. Sazzad Toushik)

References

Alex Compton, Ph.D.
(Postdoctoral advisor)
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National Cancer Institute (NCI)
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Eric O. Freed, Ph.D.
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Academic profiles and links

University Website: *https://www.northsouth.edu/faculty-members/shls/biochemistry-microbiology/kazi-md.-mostafizur-rahman.html*

Google Scholar: *https://scholar.google.com/citations?user=XyP6MAkAAAAJ&hl=en*