

## Professor Shah M. Faruque, PhD

### List of Publications

#### Original Research Papers

1. Naser, IB, Hoque, MM, Ausrafuggaman MN, Tareq TM, Rocky MM, **Faruque SM**. 2017. Analysis of the CRISPR-Cas system in bacteriophages active on epidemic strains of *Vibrio cholera* in Bangladesh. Scientific Reports. 7: 14880, DOI:10.1038/s41598-017-14839-2
2. Islam MA, Islam M, Hasan R, Hossain MI, Nabi A, Rahman M, Goessens WHF, Endtz HP, Boehm AB, **Faruque SM**. 2017. Environmental Spread of New Delhi Metallo- $\beta$ -Lactamase-1-Producing Multidrug-Resistant Bacteria in Dhaka, Bangladesh. Appl Environ Microbiol. 283(15). pii: e00793-17. doi: 10.1128/AEM.00793-17. PMID:28526792
3. Naser IB, Hoque MM, Abdullah A, Bari SMN, Ghosh AN, **Faruque SM**. 2017. Environmental bacteriophages active on biofilms and planktonic forms of toxigenic *Vibrio cholerae*: Potential relevance in cholera epidemiology. PLoS One.12(7):e0180838. doi: 10.1371/journal.pone.0180838. PMID:28700707
4. Hoque MM, Naser IB, Bari SM, Zhu J, Mekalanos JJ, **Faruque SM**. 2016. Quorum Regulated Resistance of *Vibrio cholerae* against Environmental Bacteriophages. Sci Rep. 6:37956. doi: 10.1038/srep37956.PMID:27892495
5. Zahid MS, Awasthi SP, Asakura M, Chatterjee S, Hinenoya A, **Faruque SM**, Yamasaki S. 2015. Suppression of virulence of toxigenic *Vibrio cholerae* by anethole through the cyclic AMP (cAMP)-cAMP receptor protein signaling system. PLoS One. 10(9):e0137529. PMID: 26361388
6. Connor TR, Barker CR, Baker KS, Weill FX, Talukder KA, Smith AM, Baker S, Gouali M, Pham Thanh D, Jahan Azmi I, Dias da Silveira W, Semmler T, Wieler LH, Jenkins C, Cravioto A, **Faruque SM**, Parkhill J, Wook Kim D, Keddy KH, Thomson NR. 2015. Species-wide whole genome sequencing reveals historical global spread and recent local persistence in *Shigella flexneri*. elife. 4:e07335. PMID: 26238191
7. Baker KS, Dallman TJ, Ashton PM, Day M, Hughes G, Crook PD, Gilbert VL, Zittermann S, Allen VG, Howden BP, Tomita T, Valcanis M, Harris SR, Connor TR, Sintchenko V, Howard P, Brown JD, Petty NK, Gouali M, Thanh DP, Keddy KH, Smith AM, Talukder KA, **Faruque SM**, Parkhill J, Baker S, Weill FX, Jenkins C, Thomson NR. 2015. Intercontinental dissemination of azithromycin-resistant shigellosis through sexual transmission: a cross-sectional study. Lancet Infect Dis. 15(8):913-21. PMID:25936611
8. Mahmud ZH, Islam S, Zaman RU, Akter M, Talukder KA, Bardhan PK, Khan AI, Rhodes FC, Kamara A, Wurie IM, Alemu W, Jambai A, **Faruque SM**, Clemens JD, Islam MS. 2014. Phenotypic and genotypic characteristics of *Vibrio cholerae* O1 isolated from the Sierra Leone cholera outbreak in 2012. Trans R Soc Trop Med Hyg. 108(11):715-20.

9. Azmi IJ, Khajanchi BK, Akter F, Hasan TN, Shahnaij M, Akter M, Banik A, Sultana H, Hossain MA, Ahmed MK, **Faruque SM**, Talukder KA. 2014. Fluoroquinolone resistance mechanisms of *Shigella flexneri* isolated in Bangladesh. PLoS One. 9(7):e102533. PMID: 25028972
10. Kamruzzaman M, Robins WP, Bari SM, Nahar S, Mekalanos JJ, **Faruque SM**. 2014. RS1 satellite phage promotes diversity of toxigenic *Vibrio cholerae* by driving CTX prophage loss and elimination of lysogenic immunity. Infect Immun. 82(9):3636-3643. PMID:24935981
11. Hinenoya A, Shima K, Asakura M, Nishimura K, Tsukamoto T, Ooka T, Hayashi T, Ramamurthy T, **Faruque SM**, Yamasaki S. Molecular characterization of cytolethal distending toxin gene-positive *Escherichia coli* from healthy cattle and swine in Nara, Japan. BMC Microbiol. 2014; 14:97. doi: 10.1186/1471-2180-14-97.
12. Schirmeister F, Dieckmann R, Bechlars S, Bier N, **Faruque SM**, Strauch E. Genetic and phenotypic analysis of *Vibrio cholerae* non-O1, non-O139 isolated from German and Austrian patients. Eur J Clin Microbiol Infect Dis. 2014; 33:767-78.
13. Robins WP, **Faruque SM**, Mekalanos JJ. Coupling mutagenesis and parallel deep sequencing to probe essential residues in a genome or gene. Proc Natl Acad Sci U S A. 110:E848-857. doi: 10.1073/pnas.1222538110. 2013.
14. Bari SM, Roky MK, Mohiuddin M, Kamruzzaman M, Mekalanos JJ, and **Faruque SM**. Quorum-sensing autoinducers resuscitate dormant *Vibrio cholerae* in environmental water samples. Proc Natl Acad Sci USA. 110:9926-9931; 2013.
15. Seed, KD, **Faruque SM**, Mekalanos, JJ, Calderwood, SB, Qadri F, and Camilli, A. Phase variable O antigen biosynthetic genes control expression of the major protective antigen and bacteriophage receptor in *Vibrio cholerae* O1. PLoS Pathog. 8:e1002917. doi: 10.1371/journal.ppat.1002917. 2012.
16. Kamruzzaman M, Shoma S, Bari SM, Ginn AN, Wiklendt AM, Partridge SR, **Faruque SM**, Iredell JR. Genetic diversity and antibiotic resistance in *Escherichia coli* from environmental surface water in Dhaka City, Bangladesh. Diagn. Microbiol. Infect. Dis. doi:pii: S0732-8893(13)00112-0. 2013.
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18. Zahid MS, Waise Z, Kamruzzaman M, Ghosh AN, Nair GB, Khairul Bashar SA, Mekalanos JJ, and **Faruque SM**. An experimental study of phage mediated bactericidal selection & emergence of the El Tor *Vibrio cholerae*. Indian J Med Res. 133:218-24, 2011.
19. Shima A, Hinenoya A, Asakura M, Sugimoto N, Tsukamoto T, Ito H, Nagita A, **Faruque SM**, Yamasaki S. Molecular characterizations of cytolethal distending toxin produced by *Providencia alcalifaciens* strains isolated from patients with diarrhea. Infect Immun. 80:1323-32; 2012.
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22. Hassan, F., Kamruzzaman, M., Mekalanos, JJ, and **Faruque, SM**. Satellite phage TLC $\phi$  enables toxigenic conversion by CTX phage through *dif* site alteration. *Nature* 467:982-985, 2010.
23. Kamruzzaman M, Udden SM, Cameron DE, Calderwood SB, Nair GB, Mekalanos JJ, **Faruque SM**. Quorum-regulated biofilms enhance the development of conditionally viable, environmental *Vibrio cholerae*. *Proc. Natl. Acad. Sci. U S A. (PNAS)* 107:1588-93. 2010.
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27. Hinenoya A, Naigita A, Ninomiya K, Asakura M, Shima K, Seto K, Tsukamoto T, Ramamurthy T, **Faruque SM**, Yamasaki S. Prevalence and characteristics of cytolethal distending toxin-producing *Escherichia coli* from children with diarrhea in Japan. *Microbiol Immunol.* 53:206-215; 2009.
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### **Field of Research :**

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Bacteriophage biology and their evolution

Pathogenicity islands and mobile genetic elements

Genomics of enteric bacterial pathogens

Epidemiology, evolution and ecology of enteric pathogens

Quorum sensing and Biofilms

Environmental survival forms of pathogenic bacteria