DR MD. HAFIZUR RAHMAN

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Current Position (01/01/2019-present): **Associate Professor**, Department of Environmental Science, Independent University, Bangladesh (**IUB**), Bashundhara R/A, Dhaka-1229, Bangladesh.

ACADEMIC QUALIFICATIONS:

PhD: Organic and Biomolecular Chemistry (November, 2008) **Institution:** Institute of Organic and Biomolecular Chemistry, University of Goettingen, Germany. **Title of PhD thesis: "**Unusual sesquiterpene gogonene and further bioactive secondary metabolites from marine and terrestrial bacteria".
MSc 1999 (Research): Department of Applied Chemistry and Chemical Technology, University of Dhaka, Bangladesh.
BSc (Honours) 1997: Department of Applied Chemistry and Chemical Technology, University of Dhaka, Bangladesh.

JOURNAL REVIEWER: Marine Drugs (ISSN 1660-3397; Impact Factor 3.99) and Preparative Biochemistry and Biotechnology Impact Factor 1.25)

RESEARCH FUNDS & INDUSTRIAL COLLABORATIONS:

1) Conservation of Burmese pythons in Bangladesh supported by International Foundation for Science (IFS), Sweden.
2) I was a co-investigator of the "Potential impact assessment of Rampal coal based power plant project on the Sunderbans which was funded by German government.
3) I had research collaboration with Aquapharm Bio-discovery Ltd, Scotland, UK on development of new anti-infective agents against methicillin resistant *Staphylococcus aureus* (MRSA) and vancomycin resistant enterococci (VRE) from 1st December 2008 until November 2011 funded by National Health Service (NHS), UK.

ACADEMIC AND RESEARCH EXPERIENCES

December 2008-November 2011 - Postdoctoral Research Associate at School of Life Sciences, Heriot-Watt University, Edinburgh, UK working on development of new anti-infective agents against methicillin resistant *Staphylococcus aureus* (MRSA), vancomycin resistant enterococci (VRE), *Clostridium difficile* and *Candida albicans*.

2007 – Visiting Scientist: From 1st October to 31st October 2007 worked in an exchange program between Germany and Spain, under Dr. Francisco Malpartida, National Centre for Biotechnology, Madrid, Spain. The project is entitled as "Generation of new antimicrobials with defined pharmaceutical profiles by genetic engineering".

February 1999- March 2003 - Position: Research Officer, **Institution:** International Centre for Diarrhoeal Disease Research, Bangladesh (**ICDDR,B**).
Type of research: Water analytical chemistry.

Projects involved at ICDDR,B:

Project 1: Funded by NIH, USA: Detection and identification of cholera reservoir in the water ecosystem of Bangladesh and their seasonal fluctuation and epidemiology.

Project 2: Funded by Newcastle University, UK: *Vibrio cholerae* concentration in different waste stabilization ponds in Dhaka city with respect to chemical and physical properties of waste water and their effects in surrounding environment.

Project 3: Funded by Dartmouth College, USA: Removing of *Vibrio cholerae* and other water borne diseases by simple and cost effective eight fold cloth filtration method.

TECHNICAL SKILLS AND EXPERIENCE

- Screening and complete characterization of bacterial strains producing antimicrobials through biological and chemical properties.
- Extraction of secondary metabolites from organisms, plants of fungi.
- Isolation and purification of the active metabolites through HPLC and all types of chromatographic techniques.
- Elucidation of the purified compounds through 1D and 2D NMR, different Mass techniques as well as X-ray Crystallography.
- Good experience with LC-MS, GC-MS, HPLC, 1D, 2D NMR, Mass spectrometry.
- Atomic absorption spectrophotometer (AAS), UV-Visible spectrophotometer
- Waste effluent quality control from paper and leather industry
- Biodegradation of industrial effluents.

PUBLICATIONS:

1) S. M. Sharifuzzaman, Hafizur Rahman, Dawn A. Austin, B. Austin "Properties of Probiotics Kocuria SM1 and Rhodococcus SM2 Isolated from Fish Guts" Probiotics and Antimicrobial Proteins (Springer), June 2017. doi: 10.1007/s12602-017-9290-x
2) Sheikh AftabUddin, Chowdhury Kamrul Hasan, Wali Ullah Roman, Musfiq Ahmed, **Hafizur Rahman**, First incidence of loose-shell syndrome disease in the giant tiger shrimp, Penaeus monodon from the brackish water ponds in Bangladesh Journal of Applied Animal Research (Taylor & Francis), January, 2017. DOI: http://dx.doi.org/10.1080/09712119.2017.1285771
3) S.M. Sharifuzzaman, **Hafizur Rahman**, S.M. Ashekuzzaman, Mohammad Mahmudul Islam, Sayedur Rahman Chowdhury, M. Shahadat Hossain **"Heavy metals accumulation in coastal sediments**" in a book titled **"Environmental Remediation Technologies for Metal contaminated Soils**". Springer Japan, H. Hasegawa et al. (eds.), 2016, DOI 10.1007/978-4-431-55759-3_2
4) Musfique Ahmed, Chowdhury Kamrul Hasan, Hafizur Rahman, M. Ali Hossain and Sheikh Aftab Uddin "Prospects of using wastewater as a resource-nutrient recovery and energy generation" American Journal of Environmental Sciences, 2015, 11 (2), 99-114.
5) **Hafizur Rahman**, Chowdhury Kamrul Hasan, Musfique Ahmed, Kazi Didarul Islam, M Ali Hossain "Promising natural products against nosocomial infections" European Journal of Biotechnology and Bioscience 2015; 3 (1): 63-85.

6) Jannatul Ferdous, Zainal Abedin, **Hafizur Rahman**, M Ali Hossain "Decolorization of Methyl Red by Hog Plum Peel and Sunfix Red by Bacterial Strains". International Journal of Chemical and Environmental Engineering. Vol.5, No.1, 2014, pp 65-68.
7) Jannatul Ferdous Rumky, **Hafizur Rahman**, M.Ali Hossain "Comparison between the biodecolorization of Reactive Dye by Single & Mix-Bacterial Strains" International Journal of Scientific & Engineering Research, Volume 4, Issue 8, 2013 pp, 117-120
8) Jannatul Ferdous Rumky, Zainal Abedin, **Hafizur Rahman**, Ali Hossain "Environmental Treatment of Dyes: Methyl Orange Decolorization Using Hog Plum Peel and Mix-Bacterial Strains" IOSR Journal Of Environmental Science, Toxicology And Food Technology Volume 5, Issue 3 (Jul. - Aug. 2013), PP 19-22.
9) **Hafizur Rahman**, Brian Austin, Wilfrid J. Mitchell, Peter C. Morris, Derek J. Jemieson, David R. Adams, Andrew Mearns Spragg and Michael Schweizer " Novel anti-infective compounds from marine bacteria". Marine Drugs 2010, 8(3), 498-518; doi 10.3390/md8030498.
10) **Hafizur Rahman**, Mohammed Shaaban, Khaled A. Shaaban, Muhammed Saleem, Elisabeth Helmke, Iris Grun-Wollny and Hartmut Laatsch "An imidazopridinone and further metabolites from Streptomycetes. Natural Product Communications 2009, 4 (7), 965-970
11) Seru Ganapaty, Guttula Veera Kantha Srilakshmi, Steve Thomas Pannakal, **Hafizur Rahman**, Hartmut Laatsch and Reto Brun. "Cytotoxic benzil and coumestan derivatives from *Tephrosia calophylla*" Phytochemistry, 70 (2009) 100–104.
12) C. Backhaus, **Hafizur Rahman**, S. Scheffler, H. Laatsch and R. Hardeland. "NO scavenging by 3-hydroxyanthranilic acid and 3-hydroxykynurenine: Hydroxy group strongly favors *N*-nitrosation and diazonium cation formation", Nitric Oxide, (Elsevier, Biology and Chemistry), Volume 19, Issue 3, November 2008, Pages 237-244.
13) Alexandra Nowak, **Hafizur Rahman,** Christina Heer, Anna Schueth, Hartmut Laatsch, Rudiger Hardeland. "Reactions of the melatonin metabolite N1-acetyl-5-methoxykynuramine (AMK) with the tyrosine side-chain fragment, 4-ethylphenol". Redox report: communications in free radical research (2008), 13(3), 102-8.
14) **Hafizur Rahman**, PhD Thesis, October, 2008, Institute of Organic and Biomolecular Chemistry, University of Goettingen, Germany: "Unusual Sesquiterpenes: Gorgonenes and Furhter Bioactive Secondary Metabolites Derived from Marine and Terrestrial Bacteria".

SELECTED CONFERENCES AND WORKSHOPS ATTENDED:

1) **Md. Hafizur Rahman**, Climate change effect worsening the hidden hunger issue in Bangladesh "3rd International Congress on Hidden Hunger", March 12-22, 2017, Stuttgart, Germany.
2) **Md. Hafizur Rahman** and Ashrafus Safa. Vermicompost: The most promising but ignored organic fertilizer in Bangladesh. International conference on "Do we feed the world? Local and global perspectives on sustainable agricultural incentives", Georg-August University Goettingen, Germany, 2-13 February, 2016.
3) **Md. Hafizur Rahman,** Conference on "Renewable Energy Technologies" organized and funded by the German Academic Exchange Service (DAAD) from 29th March to 10th April 2014 in Cottbus, Germany.

4) **Mass Spectrometry: Advances and new applications**, 10-12th May 2010, Department of Chemistry, University of Edinburgh.
5) **"International conference on marine derived bioactive secondary metabolites"** 3-5 October, Alfred Wegner Polar and Marine Research Institute, Bremen, Germany.
6) **"Pharmacological aspects of bioactive metabolites"** 25-27 September, 2006, University of Tübingen, Germany.
7) **"Marine Biodiscovery: Research & Applications"** 15-16 June 2010 – University of Aberdeen, Scotland, UK.

POSTER PRESENTATIONS (INTERNATIONAL):

1) K. A. Shaaban, M. Shaaban, **H. Rahman**, Iris Grün-Wollny, Hartmut Laatsch: Karamomycine Komplexe Heterocyclen aus dem Schüttelkolben, ***Symposium Best Poster Award**, Symposium of present development of natural product research, 21-23 February, 2007, Bildungszentrum Irsee, Germany.

2) Mahmoud Al-Refai, Sayed A. Ahmed, **Hafizur Rahman**, Elisabeth Helmke and Hartmut Laatsch. A new Butenolide and two Plant Flavones from a Marine Streptomyces sp. 1st Euro-Mediterranean Conference on Marine Natural Products (EMCMNP-I). Sharm-El-Sheikh, Egypt. October 31st-November 4th, 2008.

3) The Marine Derived *Streptomyces* sp. B8041, a Source of New Butanolides; Mahmoud Al Refai, Muna Ali Abdalla, Muhammad Bahi, **Hafizur Rahman**, E. Helmke and Hartmut Laatsch ; 4th July, 2008 Göttingen Jung Chemie Forum, University of Göttingen, Germany.

4) Bioactive Mandalarpyrone C, its Derivatives and Chloro Anthranilic Acid Produced by two Marine *Streptomyces* spp. Hnin Yu Win,Khalid Shaaban, Mahmoud Alrefai, **Hafizur Rahman**, Elisabeth Helmke,Hartmut Laatsch; 4th July, 2008 Göttingen Jung Chemie Forum, University of Göttingen, Germany.

5) Butanolide, Acetophenones and Tyrosol Derivatives from Terrestrial *Streptomyces* spp.Sayed A. Ahmed, Hamdi Abdel Rahim, Khaled A. Shaaban, Mahmoud Al Refai, **Hafizur Rahman**, Heidrun Anke, and Hartmut Laatsch; 4th July, 2008 Göttingen Jung Chemie Forum, University of Göttingen, Germany.

6) V. Nair, **H. Rahman**, M.T. Islam, H. Anke, H. Laatsch, 2009. Khalbalinone and Khalbalinal, novel tris-indole derivatives from the extracts of a marine Streptomyces sp. from extreme habitat Antartica. Proceedings of the 3rd Göttinger Chemie-Forum Friday, 3. July 2009. Abstract No. V6.

LANGUAGES:

Language	**Writing**	**Oral**	**Reading**
English	Excellent	Excellent	Excellent
German	Good	Good	Good
Bangla	Mother tongue		