

## Nema Marjana

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### EDUCATION

#### **THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON D.C., USA**

**Aug 2012 – Aug 2014 Master of Science in Public Health**

**Program:** Public Health Microbiology and Emerging Infectious Disease, Milken Institute  
School of Public Health  
Masters Practicum Research Fellowship (2013-2014)

#### **RANDOLPH COLLEGE, LYNCHBURG, USA**

**Aug 2007 - May 2011 Bachelor of Science in Biology**

BSc Scholarship (2007 – 2011)  
Honor Award Writing Skills (2009)  
Excellence in Discussion Group Skills Award (2010)

### TEACHING EXPERIENCE

#### **ASIAN UNIVERSITY FOR WOMEN, CHITTAGONG, BD**

**2021 – Present**

##### **Research Fellow – Erasmus Project**

- An EU funded project, “Transformative Competency-Based Public Health Education for Professional Employability” awarded to a tripartite institution [AUW, JPGSPH, IUB].
- Communicate and network with the Erasmus, lead and partner organizations to keep track of institutional activity plans
- Assist faculties in preparing project materials and submit to donor within deadline
- Keeping track of all the assets under the project
- Maintaining an invoice of budget, all timesheet and overall financial report.
- Searching and applying for internal and external grants

**2018 – 2020**

##### **Instructor of Public Health for Integrated Science – Access Academy**

- Taught students Public Health to develop their critical and analytical skills to prepare them for the undergraduate level using lecture, case studies and group presentations.
- Developed a content and discussion based syllabus with a focus on real life events and challenges on topics within Epidemiology, Data Surveillance, Infectious Disease, Environmental and Occupational Health, Disaster Epidemiology, Maternal and Child Health, Mental Health, Ethics and Governance.
- Built interpersonal relationship through student advising.

**2017 – 2018**

##### **Senior Fellow –Biological Sciences and Public Health [Science and Math Undergraduate Program]**

- Assisted faculty and students with lectures, coursework and assignment i.e. Epidemiology, Biostatistics, Environmental Science, Public Health Research Methodology, Bioinformatics, General Biology, Forensic Science.
- Co-developed course content, assessment and taught a four week laboratory based summer course, Science Lab Methodology.

#### **PRESIDENCY INTERNATIONAL SCHOOL, CHITTAGONG, BD**

**2011 – 2012**

##### **Biology Teacher – Middle & Senior School Faculty**

- Developed study materials, assignments and examinations on lecture and lab material based on British curriculum; Assisted in syllabus development for middle school.
- Provided extra after school classes to students weak in Biology; conducted parent teacher meetings.

#### **RANDOLPH COLLEGE, LYNCHBURG, VA, USA**

**2009– 2010**

##### **Tutor- Department of Biology, Physics & Chemistry**

- Tutor students in General Physics, Botany, Biochemistry and Zoology.

## RESEARCH EXPERIENCE

### **ASIAN UNIVERSITY FOR WOMEN, CHITTAGONG, BD**

**Jan 2018 – July 2019**    **Researcher**

- Identification of hospital environmental samples using biochemical techniques and testing for antibiotic susceptibility with commonly used antibiotics in Bangladesh. Paper published.

### **THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON D.C., USA**

**Jan – Sept 2014**    **Final Thesis Project for Masters Program**

- Research Title, “Review of Epidemiological Trends, Surveillance and Control Mechanism of MERS-CoV in Saudi Arabia”.
- A review of research papers, media and surveillance networks used in response to hypothesis generation and identified research knowledge gaps in recently identified coronavirus in Middle Eastern Respiratory Syndrome during 2012-2014 (2012).

### **WAKE FOREST UNIVERSITY, WINSTON SALEM, NC, USA**

**May – Aug 2010**    **Summer Research Program Intern-Department of Biochemistry**

- Research title, “Analysis of DNA Breaks at Fragile Sites and Comparison with Breakpoints of RET/PTC Rearrangement Found in Papillary Thyroid Carcinoma”.
- Collaborated with team to produce and analyze breaks in fragile sites in vitro using various laboratory techniques such as cell culture, PCR, gel electrophoresis, gel imaging and GenBank program.

### **RANDOLPH COLLEGE, LYNCHBURG, VA, USA**

**Aug – Dec 2010**    **Final Thesis Program for Bachelors of Science Program**

- Research title, “Comparison of Malaria and Dengue Viral Infections In Their Host Mosquitoes”
- Qualitative research on the comparison of infectious pathogens in the host they live in.

**2010 – 2011**

**Laboratory Technician Assistant-Departments of Chemistry & Biology**

- Worked on glassware inventory and clean up in both departments
- Set up required labs for courses and practical exam; produced chemical reagents for upper level courses

**2009 – 2010**

**Independent Research Assistant in Botany-Department of Biology**

- “Germination and Establishment of Virginia Native Plants”
- Literature research on VA soil and fieldwork with plant germination.
- Gained analytical skills in studying specific VA plants and its behavior towards growth factors i.e. fertilizer

**Jan – May 2008**

**Research Assistant in Molecular and Gene Biology- Department of Biology**

- “Creating a Recombinant Plasmid for the Conditional Immortalization of Pro- epicardial cells”
- Trained in isolation, modification and insertion of a gene into a plasmid vector using different laboratory techniques including Qiagen DNA purification kits, PCR, gel electrophoresis, gel imaging.

## OTHER RELEVANT PROFESSIONAL EXPERIENCE

### **FAIRFAX COUNTY HEALTH DEPARTMENT, VA, USA**

**Feb – Apr 2014**

**Communicable Disease/Epidemiological Outbreak Unit Intern**

- Assist epidemiologist on field and laboratory work, restaurant inspection and disease categorization.
- Summarized and assessed data on communicable disease outbreak through statistical analysis.
- Created an Epi Info Form on Critical Injury/Disease – collaboration between USPS and VA DOH.
- Produced a performance and evaluation analysis for the FCHD.
- Compiled and developed a monthly Communicable Disease Investigation Summary Report.
- Presented findings on Nipah Virus 1999 outbreak during a weekly departmental meeting.

## **DC CHILDREN AND YOUTH INVESTMENT TRUST CORPORATION, WASHINGTON D.C. USA**

Mar – Apr 2014

### **Grant Reviewer**

- Critiqued grant applications submitted for the One City Youth Initiatives Summer Proposal (OCYIS).

## **TRAINING AND COURSEWORK**

### **THE GEORGE WASHINGTON UNIVERSITY-WASHINGTON, D.C. USA**

May – July 2014

#### **Disaster Epidemiology Coursework**

- Fundamentals of epidemiologic methodology applied to pre-disaster, during and post-disaster case studies
- Identified risk factors for morbidity and mortality in case studies

Jan – May 2014

#### **Epidemiology Surveillance in Public Health Coursework**

- Monitoring and Evaluation of surveillance systems used in the USA.
- Surveillance of Adverse Drug Events (ADE), NNDSS, Influenza, HIV/AIDS, SARS/MERS and ESSENCE query

Aug – Dec 2013

#### **Design of Health Studies Coursework**

- Recognition and development of appropriate study design for specific health issue. Ecologic, cross-sectional, case-control, cohort studies and clinical trials, sampling, measurement, questionnaire design, causality and causal criteria. Research proposal submitted as course assignment.

Jul 2013

#### **Public Health Laboratory Rotation**

- A two week intensive training in microbiology practical laboratory work.
- Developed skills in gram staining, bacterial cell culture, different culture media, HIV Clearview Diagnostic Kit using patient blood samples, extraction and purification of DNA and RNA using Qiagen kit.

June 2013

#### **Health Wellness Partner Volunteer – GW Healing Clinic**

- Trained as Wellness Partner through motivational interviewing patients during clinical hours.
- Researched and advised therapeutic solution and community help lines for common health problems to patients and doctor on site.

## **PUBLICATIONS**

**Co-author:**

Nabila Ishaque Ira, Nema Marjana and A.K.M Moniruzzaman Mollah (2019). Antibiotic Resistance Bacteria in Tertiary Hospitals in Chittagong, Bangladesh. International Journal of Scientific Engineering and Science, ISSN (Online): 2456-7361, Volume 3, Issue 5, pp. 18-21, 2019

## **SKILLS**

**Language Skills:**

English (native); Bangla (Elementary); Arabic (Minimum Professional)

**Research Skills:**

Laboratory techniques: PCR, gel electrophoresis, gel imaging, cell culture & others. Literature research: PubMed, NCBI, Google Scholar & Refworks

**Computer Skills:**

Microsoft Word, Excel, Power point, SAS & GIS

**Membership:**

Tri Beta Biology Honor Society

**Presentation:**

International Conference of Natural Science and Technology – AUW (2018); MSc Oral Presentation – George Washington University (2014); BSc Oral Presentation – Randolph College (2010); Summer Research Opportunity Program Student Presentations – Wake Forest University (2010); Summer Research Showcase – Randolph College (2010)

**External Awards:**

Summer Research Opportunity Program Fellowship – Wake Forest University (2010).