

Oranti Ahmed Omi



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- EDUCATION**
- Graduate student (PhD)**
University of Georgia (UGA) August 2021-till now
Neuroscience Program
Biomedical and Health Sciences Institute
- Undergraduate major in Biomedical Engineering** CGPA: 3.88
Military Institute of Science and Technology (MIST) 2016-2019
Bachelor of Science
- Pearson International Advanced Levels**
Maple leaf International School June 2015
*2A*s in Mathematics and Chemistry*
A in Physics and B in Biology
- International General Certificate of Secondary Education Ordinary Levels**
Mastermind School June 2013
*5A*s in General and Pure Mathematics, Biology, Physics and Chemistry*
A in Bengali and B in English Language
- RESEARCH EXPERIENCES**
- University of Georgia (UGA)**
Graduate Research Assistant August 2021 – till now
Department: Physiology Pharmacology
University of Georgia College of Veterinary Medicine
PI: Jae-Kyung Lee, PhD
- Military Institute of Science and Technology (MIST)**
Undergraduate Research Assistant January 2020 – March 2020
Topic: Molecular analysis of Multiple Sclerosis
Mentor: Maj Md Maruf Hasan, PhD
- Military Institute of Science and Technology (MIST)**
Undergraduate Researcher January 2019 – December 2019
- **Topic:** Cytokine profiling of pathogenic T-helper cells in children with autism.
Supervisor: Major Md Maruf Hasan, PhD
 - This study aimed to characterize the dysregulation of T-helper (Th1, Th2 and Th17) cells by measuring the percentage of CD4+ Th1 expressing IFN-g cells, CD4+ Th2 expressing IL-4 cells and CD4+ Th17 expressing IL-17 cells from Peripheral Blood Mononuclear Cells of children with autism by use of **flow cytometric** analysis.
 - **Results:** Level of IFN-g, an inflammatory cytokine was upregulated in children with autism compared to control children.
- Military Institute of Science and Technology (MIST)**
HULT prize competition project and research December 2017 – March 2019
- **Publication name:** Photosweep: An engineering approach to develop cost effective sterilization system for hospitals; **Mentor:** Major Md Ashrafuzzaman, PhD

- A dual chambered machine that uses solar energy and its properties for medical sterilization purpose. The first chamber uses heat from sun, to turn water into high temperature and pressure steam; which can be used for sterilization of glass-ware, metallic tools and accessories. In the second chamber, UV ray is extracted from the sun to sterilize plastics (ventilation tube, bio-bags, media solution, etc.)
- **Conferences (presenter):** International Conference on E-business and Telecommunications (ICETE), March 2019, Osmania University, Hyderabad , India.
- **Publication (author):** Springer Nature in the book titled "Advances in Decision Sciences, Image Processing, Security and Computer vision" (13th July 2019).

Institute for developing Science and Health initiatives(ideSHi)

Industrial Training

December 2018 – January 2019

- IdeSHi is a research facility and the project we were under was ‘**Analysis of Mutational spectrum of B-Thalassemia patient of Bangladeshi population**’ under Farjana Akther Noor and **LARI (Lower Acute Respiratory Infections)** project that analyzed the possibility of disease breakout from the Rohingya refugees from Myanmar.
- Things learned:
 - DNA extraction from blood (Qiagen and flexigene method)
 - Measurement of DNA concentration with Nano drop
 - PCR (Polymerase Chain Reaction)
 - Gel doc image analysis of DNA bands
 - ELISA
 - PBMC isolation (Ficoll method)
 - RBC lysis
 - Viral RNA extraction
 - Basic workings of CBC machine
 - Streaking and culturing nasopharyngeal swab and gram staining
 - Blood grouping (slide method)

PROFESSIONAL EXPERIENCES **Private and Professional Tutoring** June 2015 – Present

- Teaching Olevels and Alevels candidates maths, physics, chemistry and biology
- Taught Maths-B to Olevel candidates in Regent Coaching centre

Psychological Health and Wellness Clinic September 2018 – December 2018

- Volunteer
- Worked with children who have special needs in day-care program (interacting, observing, monitoring and playing), event manager, event budget planner.

North Star Learning December 2017 – January 2018

- Teacher
- North Star Learning Center is an after school program that aims to provide children with learning support in a nurturing environment.
- Assisted children with learning disabilities like dyslexia, ADHD, dysgraphia etc.

LEADERSHIP EXPERIENCES **Bangladesh Bureau of Statistics** January 2018 - February 2018

- Supervisor in National Household Database (NHD) Project
- Supervised 7 enumerators
- Monitored enumerators data collection work, guided them to their zonal areas, kept track of progress, solved any issues regarding privacy during data collecting, cross checked enumerators work, finalized their work and submitted to zonal officer.

- Birdem (Children Hospital)** 2015
- Event manager for children's sports and games at Birdem CDiC (Changing Diabetes in Children) camp

COMPUTER SKILLS

Languages: C, C++, python, LaTeX.
Applications: AutoCAD, OrCAD, PSpice, MATLAB, Emu8086, SOLIDWORKS, Simulink, microsoft office, Adobe lightroom.
Web: HTML, CSS, Javascript, Bootstrap, Visual Studio code, GitHub.
Operating Systems: Unix, Linux, Windows, Android.

AWARDS

- **Best beginner hack** in PrivaShe virtual Hackathon 2020
- **MIST Deans List scholarship 2016-2019**
- **Best Informative Poster** in BME Fest poster presentation event held at Military Institute of Science and Technology (2018)
- **Second Runners Up** Position in the Innovation segment at Engenius Tech Competition at Ahsanullah University of Science and Technology (2018)
- **Second Runners Up** Position in the **Hult Prize** Competition at MIST (2017)
- **Daily Star Award for A levels** (2015)
- **Daily Star Award for O levels** (2013)

PARTICIPATIONS

- **COVID-19** support team, BME, MIST (Handsanitizer Production) (2020)
- Poster presentation at 3rd ICMPROI (**International Conference Medical Physics in Radiation Oncology and Imaging**) (2018)
- Opening speaker at the Global Clinical Engineering Day Bangladesh (2017)
- Poster presentation at BICoBS (Biomedical International Conference for Biomedical Students and young doctors) held at MIST (2016)
- Participation in the Math Olympiad Eastern University (2015)
- Delegate at Bangladesh Model United Nation (BANMUN) (2013)
- Participation in the Biochemistry Olympiad at University of Dhaka (2012)

CLUB INVOLVEMENT AND VOLUNTEERING EXPERIENCE

- MIST entrepreneurship club assistant founder
- MIST Einthoveens club Head journal editor
- Active member of Green club and Youth club of MLIS (High school)
- Action Peyaju Beguni APB (free iftar distribution during Ramadan) (2016)
- **Durnibar Foundation** Campaigns (free clothes and food distribution to street children) (2015)
- **Jaago Bangladesh foundation** (fundraising for ensuring quality education for the underprivileged children of our society. (2015 and 2014)
- **100smiles** (It is a flagship project of the One Degree Initiative Foundation that celebrates the spirit of Eid, with children from low-income and marginalized backgrounds. Volunteers spend the day with the children playing games, applying henna and face-paint, sharing stories and present them with gift bags containing festival gifts) (2013)