



Biography

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Dr. Md. Masud Rana

Assistant Professor

Research Area

Education

Doctor of Philosophy

University of Waterloo, Canada (May 01, 2019) -)

Ongoing

M.Sc in Engineering

Khulna University of Engineering & Technology, Bangladesh ,()

B. Sc. In Engineering

Khulna University of Engineering & Technology, Bangladesh (2008-2013)

Higher Secondary Certificate

New government Degree College, Bangladesh (2006-2008) Achievement: Board Scholarship

Secondary School Certificate

Kanapur High School, Bangladesh (2001-2006) Achievement: Board scholarship

Service Records

- **Maintenance Engineer**
Department/Section: Establishment of High Voltage Lab in KUET
Khulna University of Engineering & Technology From 01-01-1970 to 01-01-1970
- **Graduate Teaching Assistant**
Department/Section: Electrical and Computer Engineering
University of Waterloo From 01-01-1970 to 01-01-1970
- **Graduate Research Assistant**
Department/Section: Electrical and Computer Engineering
University of Waterloo From 01-01-1970 to 01-01-1970
- **Assistant Professor**
Department/Section: Electrical and Electronic Engineering
Khulna University of Engineering and Technology From 01-01-1970 to 01-01-1970
- **Lecturer**
Department/Section: Electrical and Electronic Engineering
Khulna University of Engineering and Technology From 01-01-1970 to 01-01-1970

Research Interest

Publication

Books

1. Rana, M. M. and Ban, A. A. K. a. D. (2020) , **Optoelectronic Organic-Inorganic Semiconductor Heterojunctions** , ISBN:9781000325713, CRC Press, Taylor & Francis

Journals

10. (2023) , " Control of Halogen Atom in Inorganic Metal-Halide Perovskites Enables Large Piezoelectricity for Electromechanical Energy Generation," **Small**, Wiley-VCH
9. (2022) , " Natural Lignocellulosic Nanofibrils as Tribonegative Materials for Self-Powered Wireless Electronics," **Nano Energy**, Elsevier, vol98, pp.107337
8. (2022) , " Enhanced Piezoelectricity in Lead-free Halide Perovskite Nanocomposite for Self-Powered Wireless Electronics," **Nano Energy**, Elsevier, vol101, pp.107631
7. (2022) , " Poly(vinylidene fluoride)-Stabilized Black δ -Phase CsPbI₃ Perovskite for High-Performance Piezoelectric Nanogenerators," **ACS Omega**, American Chemical Society, vol7, no.12, pp.10559-67
6. (2022) , " Performance-Improved Highly Integrated Uniaxial Tristate Hybrid Nanogenerator for Sustainable Mechanical Energy Harvesting," **ACS Appl. Mater. Interfaces**, American Chemical Society, vol14, no.3, pp.4119-413
5. FATTAH, M. F. A. , Khan, A. A. , Anabestani, H. , Rana, M. M. , Rassel, S. S. and Ban, J. T. a. D. (2021) , " Sensing of Ultraviolet Light: A Transition from Conventional to Self-powered Photodetector," **Nanoscale**, Royal Society of Chemistry, vol13, pp.15526-551
4. (2021) , " Superior Transverse Piezoelectricity in Organic-Inorganic Hybrid Perovskite Nanorods for Mechanical Energy harvesting," **Nano Energy**, Elsevier, vol86, no.2021, pp.106039
3. (2020) , " Achieving Ultrahigh Piezoelectricity in Organic-Inorganic Vacancy-Ordered Halide Double Perovskites for Mechanical Energy Harvesting," **ACS Energy Letter**, American Chemical Society, vol6, pp.16-23
2. (2020) , " Porosity Modulated High-Performance Piezoelectric Nanogenerator Based on Organic/Inorganic Nanomaterial for Self-Powered

Structural Health Monitoring," **ACS Appl. Mater. Interfaces**, American Chemical Society, vol12, no.42, pp.47503â€"12

1. (2020) , " Maximizing piezoelectricity by self-assembled highly porous perovskiteâ€"polymer composite films to enable the internet of things," **Journal of Material Chemistry A**, Royal Society of Chemistry, vol8, no.27, pp.13619-1362

Conference

8. , "Wood-Derived Lignocellulosic Nanofibrils Based Triboelectric Nanogenerator for Electronic Integration," **2022 MRS Fall Meeting & Exhibit, Boston, Massachusetts, USA**

7. , "Lead-Free FASnBr₃/PDMS-Based Flexible Piezoelectric Nanogenerator for Self-Powered Wireless Electronics," **2022 MRS Fall Meeting & Exhibit, Boston, Massachusetts, USA**

6. , "Highly Piezoelectric Organic-Inorganic Hybrid Vacancy-Ordered Double Perovskite for Energy Harvesting," **2021 MRS Fall Meeting & Exhibit, Boston, Massachusetts, USA**

5. , "A NOVEL PEROVSKITE-POLYMER COMPOSITE PIEZOELECTRIC FILM: FROM CRYSTAL GROWTH TO IOT APPLICATION," **2021 MRS Fall Meeting & Exhibit, Boston, Massachusetts, USA**

4. , "Organic-Inorganic Nanomaterials Based Piezoelectric Nanogenerator for Self-Powered Structural Health Monitoring," **2021 MRS Fall Meeting & Exhibit, Boston, Massachusetts, USA**

3. (2018) , "Electronic and Vibrational Properties of Single Layer Transition Metal Dichalcogenides (TMDC)," **2017 2nd International Conference on Electrical & Electronic Engineering (ICEEE)** , IEEE

2. , "â€"Microcontroller based power inverter for grid connected PV systemâ€", International Conference on Green and Ubiquitous Technology (GUT), 2012,Jakarta, Indonesia. , " **GUT**

1. A.,A. M. ,M.,R. M. and M.,A. , " â€"Design and implementation of a user independent SSVEP based brain-computer interface with high transfer ratesâ€", International Conference on Informatics, Electronics & Vision (ICIEV), 2013 , Dhaka, Bangladesh., " **ICIEV**