



Dr. Md. Rafiqul Islam
Professor

Research Area Semiconductor Materials and Devices: Optoelectronic Devices, MOS Devices, Solar Cells, Communication: Optical Fiber Communication System, Free-space optical communication etc.

Biography

Welcome to my homepage. I started my academic activities as a 1st-year student in the Department of Electrical and Electronic Engineering (EEE) of Khulna University of Engineering & Technology (KUET) [Erstwhile Bangladesh Institute of Technology (BIT), Khulna] in 20th June 1987. I received the B.Sc. Engineering Degree on 12 October 1991 and then joined as a Research Assistant in 1992 under a research project titled "Evaluation of Co-generation Potentials in Khulna Newsprint Mills and Mobarokgonj Sugar Mills" financed by the Science and Technology Ministry, Bangladesh. The project was carried out by the direct supervision of former Prof. Dr. Abdur Rahim Mollah, Dept. of EEE, KUET. After completing the Research Project I joined as a Lecturer in the same Department in June 1993. I received the M.Sc. engineering degree from Bangladesh University of Engineering & Technology (BUET) in 1998 and then got an Assistant Professor position in the same Department. In 2000, I started my Ph.D. research at Kyoto Institute of Technology (KIT), Japan, and completed Doctor of Engineering Degrees (D. Eng.) in 2004. After completing the D. Eng. Degree, I got an Associate Professor position in 2005 in the same department of KUET. Currently, I have been serving as a Professor since 2007 in the same Department and University. My main responsibilities are to conduct theory and sessional classes at undergraduate and graduate levels and hence to supervise student's thesis and research works. I am interested in modeling and simulation of electronic and optoelectronic devices. I also work in optical fiber/free-space communication systems. Recently, I am working on smart sensing device development. Short description of my professional experience, research, and publications are available in this site.

Education

Doctor of Engineering (Dr. Eng.)

Kyoto Institute of Technology, Japan (April 2001-2004)

Thesis Title: [Nondestructive Characterization of Composition and Residual Strain in Bulk Mixed Crystals](#)

Eight SCI indexed journal papers and fifteen international conference papers were published from the Ph.D. research work.

Master's of Science in Engineering

Bangladesh University of Engineering and Technology (BUET), Bangladesh (July 1996-1998)

Thesis Title: [Impact of Fiber Chromatic Dispersion on the Performance of a WDM Optical Ring Network](#)

A SCI indexed journal paper and a conference paper were published from the M.Sc. Engineering research work.

B.Sc. Engineering in Electrical and Electronic Engineering

Bangladesh Institute of Technology, Khulna, (Now KUET), Bangladesh (June 1987-1991)

Service Records

- **Assistant Professor**
Department/Section: EEE
Bangladesh Institute of Technology (BIT), Khulna, (Now KUET) From to
Working Area: Teaching
Responsibility: To conduct theory and practical classes in undergraduate level student and also to supervise their thesis work.
- **Lecturer**
Department/Section: EEE
Bangladesh Institute of Technology (BIT), Khulna, (Now KUET) From to
Working Area: Teaching
Responsibility: To conduct theory and practical classes in undergraduate level student
- **Research Assistant**
Department/Section: EEE
Bangladesh Institute of Technology (BIT), Khulna, (Now KUET) From to
Working Area: Research Project
Responsibility: To carry out research under a research project sponsored by Ministry of Science and Technology, Bangladesh. The title of the research project was "Evaluation of Cogeneration Potential of Khulna News Print Mills and Mobarokganj Sugar Mills". The research was carried out by the supervision of Prof. Dr. Abdur Rahim Mollah, Department of Electrical and Electronic Engineering, Bangladesh Institute of Technology, Khulna [KUET].

Research Interest

Semiconductor Materials and Devices: Optoelectronic Devices, MOS Devices, Solar Cells, Communication: Optical Fiber Communication System, Free-space optical communication etc.

Modeling and Performance Analysis of Electronic and Optoelectronic Devices, Elastic propertise of Compound Semiconductors Performance Analysis of Optical Fber Communication System, OCDMA System

Recently CV characterization of InGaSb-based surface channel and Burried channel MOSFET structures has been reported, Free space wireless power transfer for cell battery recharging is performed experimentally. Universal drive circuit for LED Lamp is under construction, Smart load management device is also under construction, Research on Solar cell efficiency determination is also going on.

Publication

Books

1S. Roy, M. R. Islam and a. U. Bhowmik, "Crystal Orientation-dependent Hole Effective Mass in III-V Semiconductors: A Novel Approach to High-speed Optoelectronics", ***Crystal Orientation-dependent Hole Effective Mass in III-V Semiconductors: A Novel Approach to High-speed Optoelectronics*** , ISBN:978-3-659-95262-3, LAP LAMBERT Academic Publishing, 2016 .