

# Civil and Environmental Engineering: Bangladesh's Perspective



As a developing country, Bangladesh is expected to take up huge infrastructure projects in this century. Along with the boom in the real estate sector, large span bridges, elevated express ways, flyovers, metro-rail, subway, bus rapid transits, airports, expansion of railway service, deep-sea port, barrage, dam, surface water treatment plants, etc are some of the examples of upcoming mega projects. Being a disaster prone country and highly vulnerable to climate change and sea level rise, infrastructure development to combat them is required in the near future too. In addition, there is a growing job market for civil engineers in abroad as well including Middle-east, Singapore, North America, Australia and even Europe.

In the country, till now the maximum number of engineering job positions in the public sector are for civil engineering graduates. Civil engineers constitute the highest number of civil service (BCS) cadres. The government organizations and departments which are predominately run by civil engineering graduates include Public Works Department (PWD), Roads and Highways Department (RHD), Department of Public Health Engineering (DPHE), Bangladesh Railway, Local Government Engineering Department (LGED), Water Development Board (WDB), Military Engineering Service (MES), Army Engineering Core, WASA, City authorities like RAJUK, Civil Aviation Authority, Port Authorities, BIWTA, BADC, Municipal Corporations, etc. Apart from this, a large number of reasearch organizations, private consulting and construction firms, NGOs and international development agencies recruit civil engineers as for example, WARPO (Water Resources Planning Organization) , RRI (River Research Institute), IWM (Institute of Water Modeling), CEGIS, World Bank, ADB, JICA, UNDP, DFID, USAID, CIDA, DANIDA, GIZ, AUSAID, SIDA, IDB, CARE, ACTIONAID, OXFAM, NGO FORUM, WaterAid International are a few examples.



# Strategic Mission & Vision

The Department of Civil and Environmental Engineering (CEED) at NSU aspires to be a leader in providing engineering solution to infrastructure development in a sustainable manner in line with the national and global context. The mission of CEED at NSU is to produce world-class engineering graduates with proficiency in technical competency, ethical standard and leadership skills who can have a successful career in civil and environmental engineering as a professional and/or contribute to advancement in knowledge and innovation in the field. Specifically it will concentrate on: (1) Imparting adequate technical skills to students with up-to-date global knowledge base; (2) Ensuring that the students have critical thinking and analytical skills; (3) Educating with social awareness, ethical and sustainability commitment, and leadership skill; (4) Contributing to research, innovation and maintaining an effective industry-academia relation; and (5) Standardizing skill sets and education methods with national and international scale.



To support its vision and mission, CEED has established the following goals: (1) Developing quality academic programs and curricula; (2) Providing international standard resources and facilities; (3) Ensuring teaching quality and student performance; (4) Excel in research, innovation and industry relation; (5) Impart student with social awareness, ethical standard, communication and leadership skill; (6) Accreditation of reputed standards; and (7) Popularizing the department through decent advertisement campaign.



## Faculty

One of the major strengths of the department is its highly qualified faculty members, having degree from internationally reputed universities, mostly from North America. Eminent educationists and professional engineers from home and abroad in the field of civil and environmental engineering are involved with the department with various capacities as the member of the Academic Advisory Board and Industry Advisory Board. Academics from abroad also teach in the department as visiting faculty members. CEED hires part-time faculty members from other institutes as well. CEED also has adequate Laboratory Officers and Assistant Laboratory Officers, all having BS in Civil Engineering degree.



Faculty members of CEED

## Academic Advisory Board

- **Prof. Dr. Shamim Z Basunia**, *Ex-Professor, Chair and Dean, Department of Civil Engineering, BUET*
- **Prof. Dr. M. Feroze Ahmed**, *Vice Chancellor, Stamford University, Ex-Professor, Department of Civil Engineering, BUET (Ex-Chair and Dean; Ex-Director, ITN-BUET)*
- **Prof. Dr. Md. Mazharul Hoque**, *Professor, Department of Civil Engineering, BUET (Ex-Chair; Ex-Director, Accident Research Center)*
- **Prof. Dr. Md. Mujibur Rahman**, *Professor, Department of Civil Engineering, BUET (Ex - Chair, Ex-Director, ITN-BUET)*
- **Prof. Dr. Sarwar Jahan Md. Yasin**, *Professor, Department of Civil Engineering, BUET*
- **Prof. Dr. Md. Mafizur Rahman**, *Professor, Department of Civil Engineering, BUET (Ex-Director, ITN-BUET)*
- **Prof. Dr. M Jahir Bin Alam**, *Professor, Department of Civil and Environmental Engineering, SUST, Sylhet*
- **Prof. Dr. S M Atiqul Islam**, *Professor, Department of Civil Engineering, DUET, Gazipur, Dhaka*
- **Major General Md. Abdul Quadir**, *Commandant, Military Institute of Science and Technology (MIST)*
- **Prof. Dr. Rumana Riffat**, *Associate Dean, School of Engineering and Applied Science and Professor, Department of Civil and Environmental Engineering, George Washington University (GWU), USA*
- **Prof. Dr. Rafiqul A. Tarefder**, *Professor, Department of Civil Engineering, University of New Mexico (UNM), USA*
- **Prof. Dr. Farhad Reza**, *Professor, Department of Civil Engineering, Minnesota State University, USA*
- **Dr. Mujibur Rahman**, *Senior Lecturer, Department of Civil Engineering, Brunel University, London, UK*



Members of the Advisory Council



## Md. Sirajul Islam

Professor & Dean, SEPS

*PhD, The University of Tokyo, Japan; M.Sc., The National University of Singapore  
B.Sc. Engg. (Civil), Bangladesh University of Engineering and Technology (BUET)  
IPCC Expert Reviewer and former UNFCCC Fellow*

Climate Change and Water Resources Engineering, Environmental Engineering, Industrial Environmental Compliances.

**Dr. Md. Sirajul Islam** joined NSU back in 2005 and held several important positions including Chair, Department of Environmental Science & Management (DESM) and Faculty Advisor of Earth Club. Dr. Islam has extensive experiences in the field of water resources and environmental engineering with further concentration in climate change, urban environmental management, industrial compliance and building safety issues. He got training on ISO 14000, industrial environmental management and fire safety. Dr. Islam started his career as a researcher at the Institute of Water and Flood Management (IWFM), BUET in 1995. He then joined at the Department of Civil and Environmental Engineering, Shajalal University of Science and Technology (SUST), Sylhet in 1997. After his PhD, he conducted JST Postdoctoral Fellowship on Hydrology and Water resources engineering at Oki Laboratory, IIS, The University of Tokyo, Japan in 2003-2005. Apart from academic assignments, he also served for a number of international organizations and UN bodies as UNDP, DFID, ADB, UNFCCC and IPCC as well. In 2010, he served as Research Fellow at the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC), Bonn, Germany on the topic Technology for Adaptation. Dr. Islam is associated with Intergovernmental Panel on Climate Change (IPCC) and served as an Expert Reviewer for a number of IPCC reports. He is extensively involved with the professional bodies in his field and presently serving as General Secretary, Bangladesh Society for Environmental Scientists (BSES). He published widely in different international and national peer reviewed journals, book chapters and conference proceedings.

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## Javed Bari

Professor and Chair

*PhD & M.Sc. (Civil) Arizona State University, Tempe, Arizona, USA*

*B.Sc. Engg. (Civil), Bangladesh University of Engineering and Technology (BUET)*

*PE (Registered Professional Engineer), USA*

Transportation Engineering & Planning, Pavement Design, Construction Materials, Construction Management, Project Planning and Management, Highway Safety.

**Dr. Javed Bari** joined NSU in 2013. He has more than twenty years' combined teaching, research and industry experience in various fields of Civil Engineering. He obtained his B.Sc. in Civil Engineering from BUET in 1993 with a major in Structural Engineering. Later he obtained M.S. and Ph.D. in Civil Engineering from Arizona State University, Tempe, Arizona, USA with a specialization in Transportation Engineering. He is a registered Professional Engineer (PE) in USA with an active license. He is also a Life fellow of IEB. He is considered a USA South-Western specialist of transportation and materials. Dr. Javed Bari was one of the key researchers who developed the globally known new AASHTO Mechanistic-Empirical Pavement Design Guide. He taught Civil Engineering courses at Arizona State University for a long time. Dr. Bari also worked in the Arizona Department of Transportation (ADOT) as a team leader and Sr. Pavement Design Engineer from 2005 to 2010. There he managed numerous research projects as well as highway construction projects totaling more than 800 million dollars. In Bangladesh, Dr. Bari worked in all three major Civil Engineering Govt. Departments, e.g. RHD, PWD and LGED, between 1994 and 1999. After returning from USA in 2011, he briefly worked in the IUBAT University at Dhaka as a Professor of Civil Engineering and also the Director of South Asian Disaster Management Center (SADMC). He also worked as consultant for the World Bank. Dr. Bari attended numerous professional training sessions such as EIT practitioner's training at EGIS-II, Govt. cadre foundation training at PATC, BAETE Accreditation training, ADOT strategic management training, etc. Dr. Bari has numerous publications in many international peer reviewed journals and conference proceedings such as the journals and proceedings of ASCE, TRB, AAPT, ITE, ASC, etc.

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