

# OPTIMIZATION SEMINAR SERIES

*Speaker:* Dr. Mozammel H.A. Khan  
Visiting Researcher

*Time:* Wednesday — September 16, 2015  
12:00pm — 12:50pm

*Location:* B543

*Title:* Combinatorial Optimizations of Some Graph Problems using Evolutionary Algorithms

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Many classical graph problems such as maximum clique problem (MCP), graph coloring problem (GCP), and degree-constrained minimum spanning tree (d-MST) are NP-hard problems and combinatorial in nature. Meta-heuristic algorithms such as evolutionary algorithms (EA) are found to be very effective in global optimization of combinatorial problems in general. We have solved MCP using quantum-inspired evolutionary algorithm (QEA), GCP using both memetic algorithm and QEA, and d-MST using QEA. In all the cases, the experimental results establish that our methods outperform the previous methods. The talk is based on the published papers of Professor Khan with his students. The talk is intended for senior undergraduate students, graduate students, and faculty members interested in collaborating in solving combinatorial graph problems and other combinatorial problems using EA.

## Biography:

Dr. Khan is a Professor in the Department of Computer Science and Engineering at East West University, Dhaka, Bangladesh and currently a Visiting Researcher in the Department of Mathematics and Computer Science at University of Lethbridge, AB, Canada. Prof. Khan is a Senior Member of the Institution of Electrical and Electronics Engineers (IEEE). He has obtained B.Sc. Engg. degree in Electrical and Electronic Engineering, M.Sc. Engg. degree in Computer Engineering, and Ph. D. degree in Computer Science and Engineering from Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh in 1984, 1986, and 1998, respectively. He has served as Head of the Department of Computer Science and Engineering, Head of the Department of Electronics and Communications Engineering, and Dean of the School of Science, Engineering and Technology at Khulna University, Khulna, Bangladesh. He has also served as Chairperson of the Department of Computer Science and Engineering, Chairperson of the Department of Electrical and Electronic Engineering, and Dean of the Faculty of Science and Engineering at East West University, Dhaka, Bangladesh. Prof. Khan's research interests include Logic Synthesis, Quantum Computing, Evolutionary Algorithms, and Nano-Electronics. He has published 88 papers in journals, book chapters, and conferences. More about him can be found at [www.ewubd.edu/~mhakhan](http://www.ewubd.edu/~mhakhan)