Joint Event hosted by

the IEEE Student Branch at LIU-Brooklyn, [https://edu.ieee.org/us-liubc/](https://edu.ieee.org/us-liubc/)

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& Education Committee of New York Section

**May 1, Sunday, 6~ 8:00 PM**

**Virtual Seminar at CUNY Blackboard system:**
[https://us.bbcollab.com/guest/d161180dbceb4314a0cc5a46c40db0a3](https://us.bbcollab.com/guest/d161180dbceb4314a0cc5a46c40db0a3)

"SOA-based Fiber Laser and its Applications in Fiber Optics"

**Abstract:** We will explore some of the fundamental questions pertaining to LASER. How can a semiconductor optical amplifier (SOA) be used to make a laser? What are the applications of low power and high-powered laser? We will demonstrate that a simple, stable and inexpensive dual-output port widely tunable semiconductor optical amplifier (SOA)-based linear cavity low power fiber laser can be transformed into compound-ring laser structure is demonstrated. This unique nested ring cavity enables high optical power that can potentially be used for photoconductive mixing and generation of waves in the microwave and THz regions.

**Speaker:** Dr. Muhammad A. Ummy is currently an Associate Professor of Electrical Engineering Technology at New York City College of Technology since 2014. He received his B.E. in Mechanical Engineering from the City College of New York in 1997 and his Ph.D. in Electrical Engineering from Graduate Center at the City University of New York in 2008. Professor Ummy’s research focus is on design of both low and high-power SOA-based fiber Laser system. He is currently working on Terahertz generation using Lithium Niobate crystals. He has published over twenty peer-reviewed journal articles, two book chapters. In addition, he has two U.S. Patents. Prof. Ummy’s research has been sponsored by DOE, NSF and CUNY Strategic Investment Initiative (SII). Prof. Ummy has presented his research to several international conferences.

**Agenda:**
6:00 PM Welcome Remarks & introduction (Prof. Ping-Tsai Chung, Prof. Xin-Zhou Wei)
6:15~ 7:15PM (Presentation- "SOA-based Fiber Laser and its Applications in Fiber Optics
7:15 ~7:30 PM Q/A

ALL ARE WELCOME