

# Injection Locked Semiconductor Lasers for Future High Speed Optical Communications

**Speaker:** Mohammed Zahed M. Khan  
Assistant Professor EE Dept.

**Day and time:** Tuesday 24<sup>th</sup> Oct. at 1:10 pm.  
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## Abstract:

The rising demand of large bandwidth and high speed transmission optical networks to meet the requirements of ever increasing end users has pushed the paradigm to explore different light sources that fundamentally defines the capacity of both outdoor as well as indoor network infrastructure. In this talk, we will discuss the ongoing research on light sources to address this future requirements, and in particular focusing on the employment of a new class of broadband quantum-dash laser emitting in L-band regime with assisting injection locking technique. The inherent multiwavelength characteristics or frequency comb generation from this laser enabled transmission of  $> 176$  Gb/s/channel data rate and capacity in Tb/s, via a single source, and on both optical fiber as well as free-space optical channels.

## Biography:

Dr. Mohammed Zahed Mustafa Khan received his PhD degree in Electrical Engineering from King Abdullah University of Science and Technology (KAUST), Saudi Arabia, in 2013 and was a SABIC postdoctoral research fellow in Photonics Laboratory, KAUST, from 2014-2015. He is currently an Assistant Professor in Electrical Engineering Department at KFUPM. He has contributed towards the development of novel broadband quantum-dash semiconductor lasers and super luminescent diodes. Presently, his research focus is on the application of this new class of lasers in optical access networks, and performance improvement of visible light semiconductor lasers for visible light communications.