**Graduate Seminar –V, Spring 2014**

***ECE Department***

**Impairment-aware RWA in Translucent Optical Networks**

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Wavelength Division Multiplexing (WDM)-based optical networks are widely deployed at the Internet’s core because of their ability to carry large amounts of traffic. Optical amplification has increased the reach of long-haul optical links in WDM-based optical networks; yet, physical impairments make it impossible to construct truly optical core networks. To combat these impairments, optical signals are intermittently converted to electrical signals and regenerated, thus ridding the optical signals of accumulated impairments. Networks with sparse regeneration capabilities are called translucent optical networks. In physically impaired networks, the specified Quality of Transmission (QoT) of connections (as exemplified by, say, their Bit Error Rates (BER)) must be satisfied. At the same time, network operators are interested in utilizing the network effectively,

or in other words, minimizing the blocking probability of connections. To achieve these twin objectives, efficient cross-layer methods are called for. This talk will present some of our recent work on cross-layer routing and wavelength assignment (RWA) in translucent optical networks.

***Date*: Wednesday, March 26, 2014. *Time*: 3:30pm; *Room*: KI-306**