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Biography: Mr. Yuan-Hsi Chuang received the B.S. degree from the Department of Computer Science, National Tsing Hua University, Hsinchu, Taiwan, in 2011. He is currently working toward the Ph.D. degree in the Department of Computer Science, National Tsing Hua University, Hsinchu, Taiwan. His research interests include routing and wavelength assignment (RWA) algorithms in all-optical WDM networks.

Session Title: Light Trail Design for Energy-efficient Traffic Grooming in Light-trail Optical WDM Networks

Abstract: A light trail in an optical WDM network is a unidirectional bus on a wavelength from a convener node to an end node. The main advantage of a light trail over a light path is that the communication channel of a light trail can be accessed by intermediate nodes providing more flexibility for traffic grooming. In general, energy consumption in an IPover-WDM network is dominated by optical-electronic (OE) and electric-optical (EO) conversion operations and related router processing. This paper addresses the issue of minimizing energy consumption of OEO conversion operations in designing light trails for traffic grooming purpose in light-trail optical WDM networks. An effective heuristic algorithm is proposed for this problem.