Center for Integrated Access Networks

MONTHLY NEWS LETTER

OCTOBER 2012

Center for Integrated Access Networks Industry

Research Spotlight: Columbia University

Dr. Keren Bergman's group is involved in a number of projects within the CIAN ERC. The OpenFlow-enabled hybrid switching CIAN box is collaboration between Alcatel-Lucent and Columbia University. The goal of the program is to develop a hybrid switching CIAN box with the following key elements:

• OpenFlow-enabled control plane

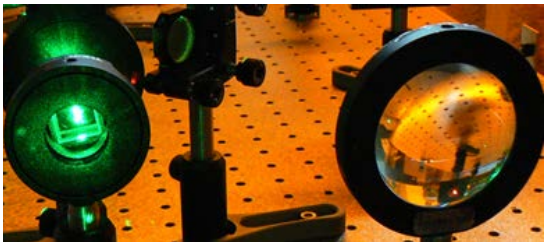
• WSS-enabled optical wavelength switching fabric,

• Electronic and optical packet switching fabric.

The program is currently undergoing experimental validation and simulation modeling. The CIAN chip integration is a collaborative effort among Columbia, Cornell and UCSD to demonstrate an on-chip OSNR monitor for 40G data. Professor Lipson's group at Cornell has recently completed the initial run of the thermally active micro-ring add-drop filter chips. Over the next two months, the team will characterize the add-drop filter chip with the goal of inserting the add-drop filter into UCSD data center testbed.

Industrial Partnership: VPIPhotonics

Four of CIAN's academic institutions have partnered with VPIPhotonics to incorporate the VPItransmissionMaker™Optical Systems and VPIcomponentMaker™Photonic Circuits Photonic Design Automation Software applications into their research activities and coursework. Dr. Keren Bergman's research group at Columbia University is using the application to simulate intermodulation crosstalk in micro-ring-modulator systems. At the University of Arizona, the VPI software suite was a key teaching tool in the College of Optical Sciences OPTI 503B: Software Tools for Photonics, taught by Dr. Jun He in the spring semester. The class introduced students to industry-recognized software packages for optical design, propagation and transmission, active and passive component simulation as well as networking simulation. Students learned the modeling and simulation skills suitable for the fast and accurate analysis of a fiber optical Wavelength Division Multiplexed (WDM) system. (Cont)



Tech Tip

You can always retrieve your login and password information by going to http://data.cian-erc.org and entering your valid email address and your login information will be sent out to you automatically.

CIAN Downloads

Please Login and download most-up-date presentations using your login and password: http://www.cian-erc.org/industry_meetings.cfm

Prof. Bahram Jalali's research group at UCLA's Electrical Engineering Department and California NanoSystems Institute is using the software in the TiSER project (which is developing a second generation real-time oscilloscope and BER instrument) for real-time bit error rate characterization. Dr. Alan Willner and Dr. Joe Touch with the USC Department of Electrical Engineering are using the software suite to simulate optical performance monitoring schemes for advanced fiber transmission systems and to simulate several candidate designs for an all-optical flip-flop device.

Recent Publications

Publication Title: "Reconfigurable silicon thermo-optical ring resonator switch based on Vernier effect"

Author(s): Fegadolli, William S., Vargas, German M., Wang, Xuan M., Valine, Felipe M., Barea, Luis M., Oliveira, José Edimar B., Frateschi, Newton M., Scherer, Axel M., Almeida, Vilson Rosa., Panepucci, Roberto R.
Journal Name: Optics Express:

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