Agilent Technologies and UC San Diego Collaborate on Chip-Scale Photonic Systems Testing Facility

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Agilent Technologies Inc. (NYSE: A) and the University of California, San Diego today announced they have established a new chip-scale micro- and nanophotonic systems testing facility on the campus that is part of the National Science Foundation (NSF) Major Research Instrumentation (MRI) project. This activity is done in conjunction with the multi-university Center for Integrated Access Networks (CIAN), led by The University of Arizona.

The new Chip-Scale Photonic Testing Facility is located in the California Institute for Telecommunications and Information Technology (Calit2) on the UC San Diego campus. The facility will support testing and characterization of micro- and nano-scale, ultra-high-speed optical components and subsystems for numerous applications, including technology for future data centers and cloud computing.

"Accurate, high-speed measurements are essential to the investigation of novel designs and fabrication techniques for nanophotonic devices," said CIAN Deputy Director Yeshaiahu Fainman, a Cymer Professor of Advanced Optical Technologies in the Electrical and Computer Engineering department of UC San Diego's Jacobs School of Engineering. "This testing facility will hopefully lead to closer collaborations with our industry partners. Agilent Technologies has made it possible for us to build a facility with state-of-the-art test and measurement equipment that complement the technologies deployed in other UCSD and CIAN laboratories."

A complete suite of 40 Gigabits-per-second (Gbps) test equipment will permit component-level compliance testing and troubleshooting of devices intended for NSF's MRI Data Center Testbed, further enhancing Calit2 and CIAN work in these areas. In the next few years, CIAN participants at UC San Diego expect to upgrade the Chip-Scale Photonic Testing Facility from 40 Gbps to 100 Gbps (and greater) basic data rates. The facility will also add system- and network-level analysis capabilities, including modulation and bit-error rate measurement.

"In addition to testbeds, another major thrust of CIAN is the development of industrial collaborations and technology transfer to the private sector," said CIAN Director Nasser Peyghambarian, a professor of optics at UA. "We are delighted with the supportive role that Agilent Technologies is taking with respect to research in testbeds, industrial collaborations, technology transfer, education outreach and diversity."

"We are delighted to be associated with the CIAN research effort and help establish the testbed facility at UC San Diego for CIAN," said Bill Wallace, Agilent's director of university development for the Americas region. "The research conducted by distinguished CIAN and UCSD faculty will enable affordable and flexible new networks and data service rates of 10Gigabits per second. The research being conducted by CIAN is both interesting and transformational in nature."

Calit2 currently hosts a second photonics testbed at UC San Diego, which is one of the National Science Foundation's Engineering Research Centers. The photonics testbed is used by researchers from the nine universities participating in CIAN.

Based at The University of Arizona (UA), CIAN is designed to create transformative technology for optical access networks where virtually any application requiring any resource can be seamlessly and efficiently aggregated and interfaced with existing and future core networks in a cost-effective manner.

UA recently began construction on a new testbed for optical aggregation networking, another NSF facility, with matching support from Agilent as well as Fujitsu Network Communications and Yokogawa Corp. of America. CIAN researchers can also access existing facilities at Columbia University for cross-layer optimization, and the University of Southern California (USC) for optical data introspection, which round out the principal sites for CIAN researchers in need of specialized testing capabilities.

About CIAN The Center for Integrated Access Networks (CIAN) is an NSF Engineering Research Center. It is a multi-institutional research effort based at The University of Arizona aimed at removing one of the last bottlenecks in the Internet by developing optoelectronic technologies for high-bandwidth, low-cost, widespread access and aggregation networks. Other members of CIAN include UC San Diego, Columbia University, USC, UC Berkeley, UCLA, California Institute of Technology, Norfolk State University and Tuskegee University. CIAN was created in 2008 with an $18.5 million grant from the NSF. www.cian-erc.org

About Calit2 at UC San Diego The UC San Diego Division of the California Institute for Telecommunications and Information Technology (Calit2), together with Calit2's division at UC Irvine, house over 1,000 researchers across the two campuses, organized around more than 50 projects on the future of telecommunications and information technology and how these technologies will transform a range of applications important to the California economy and its citizens' quality of life. Calit2 will celebrate its 10th anniversary in December 2010. www.calit2.net www.ucsd.edu

About Agilent Technologies Agilent Technologies Inc. (NYSE: A) is the world's premier measurement company and a technology leader in communications, electronics, life sciences and chemical analysis. The company's 16,000 employees serve customers in more than 110 countries. Agilent had net revenues of $4.5 billion in fiscal 2009. Information about Agilent is available on the Web at www.agilent.com.

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