



IEEE  
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北美台灣工程師協會  
North America Taiwanese Engineers' Association

[www.natea.org](http://www.natea.org)

Event: **Next-Generation Wireless Broadband** Workshop  
Host: NATEA-SV wirelessSIG / IEEE-SVC ComSoc  
Time: 3/12/2008 Wednesday, 6:00PM to 8:45PM  
Place: National Semiconductor, Building E, **2900 Semiconductor Dr.**, Santa Clara

[Map\\_Link](#)     [Building\\_Map](#)

Fee: Free, **Donation to cover pizza**

RSVP: [luchang@ieee.org](mailto:luchang@ieee.org)

(**Please come earlier** to help us have more time in the discussion section.)

06:00 – Registration, networking  
06:30 – Presentations from each speaker  
07:45 – Panel Discussion  
08:45 – End of the Program

### Speakers:

**Mr. Bruce Himebauch, Director, Atheros (WiFi 802.11n)**

**Mr. Rehan Jalil, CEO, Wichorus (WiMax/LTE)**

**Dr. William Lee, Chairman, Treyspan, Inc. (LTE/HSPA)**

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**Wifi 802.11n**

- [Presentation title:](#)

**Evolution, Current Status and Future directions of IEEE  
802.11 WiFi**

- [Abstract/outline:](#)

A brief history of IEEE 802.11 will be presented to set the stage for current status and future directions of WiFi technology and applications. Emphasis will be placed on the current draft of IEEE 802.11n standard and the proposed extension of 802.11i to include the formation of Task Group (TG) w. We'll also examine why IEEE 802.3z/ 802.3ab is replacing IEEE 802.3u in WLAN hardware.



The following topics will be covered in this talk:

- Historical Perspective and Evolution of IEEE 802.11 standards
- What is the Wireless Fidelity (WiFi) Alliance and how is it different from the IEEE 802.11 standards committee?
- 802.11 variants, frequencies, throughput and deployment considerations
- Proposed extension of 802.11i - TGw
- 802.11n technology, applications and current state
- Atheros XSPAN™ technology for 802.11n
- Why IEEE 802.3z/802.3ab is replacing 802.3u in WLAN hardware
- Where we go from here- current trends, future directions, predictions for June 2009.

- [Speaker Bio:](#)

**Mr. Bruce Himebauch**, Director of Solution Product Engineering, Atheros Communications

Bruce Himebauch is Director of Solution Product Engineering in the Software Research and Development Group of Atheros Communications. His 25 years of network industry experience at companies such as Symbol Technologies and Proxim Corporation has focused on LAN communications.

Bruce has worked on a variety of communication technologies including Binary Synchronous Communications Protocols, System Network Architecture / Synchronous Data Link Control protocols, and 802.11x.

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**WiMax / LTE**

- [Presentation title:](#)

**Innovations in end-2-end architecture of 4G and WiMAX Networks**

- [Abstract/outline:](#)

All camps in the next-generation mobile wireless world are evolving towards an OFDMA based, all-IP network. In additions to innovations in WiMAX and LTE on the physical and MAC layer, like OFDMA, MIMO and beamforming, the end-2-end network architecture is being significantly enhanced in the edge and core of the network. These



new flatter networks enable low-latency multimedia applications and a model where services will be increasingly delivered through Internet, in an open fashion.

This session will elaborate on trends in the evolution of end-2-end architecture in the new 4G world.

- [Speaker Bio:](#)

**Mr. Rehan Jalil, CEO, Wichorus**

Rehan has over 15 years of technical management and sales experience in telecommunications, networking, and multi-core processors. Prior to WiChorus, he was the chief architect for Aperto Networks and played diverse leadership roles in technology and sales. Aperto was a key contributor of technology that became part of IEEE802.16 and was a founding member of the WiMAX Forum. He developed multiple generations of broadband wireless silicon, carrier-grade base stations and terminals, and also brought in multi-million dollar orders. These systems are used to deploy networks globally, in over 75 countries, by more than 400 operators. At Sun Microsystems, he helped develop one of the industry's earliest advanced multi-core multithreaded processors for throughput computing and graphics applications. Part of the technology is now used in Sun's 32-threaded Niagara and Rock processors. At Siemens, he managed projects related to system-level design and implementation. He also contributes to social entrepreneurship projects and is a charter member of OPEN Silicon Valley. He has over 18 patents pending and graduated with an MSEE from Purdue University.

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**LTE/HSPA**

- [Presentation title:](#)

The 4G Technologies For Spectrum Efficiency of Data Transmission and Voice

- [Abstract/outline:](#)

ITU has issued a definition of 4G system that 1 Gbps transmission is for stationary and 100 Mbps for a moving condition. To achieve these conditions with less spectral bandwidth is the winner.



Actually this definition is only applying for data transmission but not suitable for voice capacity. Therefore, people are misled by the definition for 4G system.

How to make a 4G system for both data and voice should be addressed very carefully. This talk will clear the concept of having a 4G for data and voice.

[- Speaker Bio:](#)

**Dr. William C.Y. Lee, Chairman, Treyspan, Inc.**

Dr. William C.Y. Lee serves as Chairman of Treyspan, Inc., a start-up company located at Segundo, CA doing the wireless network deployment. He was Chairman of LinkAir Communications, Inc. where he provided strategic direction to LinkAir's senior management team from 2000-2005. He was Vice President and Chief Scientist of AirTouch, then Vodafone-AirTouch from 1985-2000.

Dr. Lee has published more than 300 articles and seven technical books on CDMA theory and technology. His mobile cellular telecommunications system book published in 1989 was the first cellular system book ever published. He wrote eight technical books. The recent one "Wireless and Cellular Telecommunications Systems" was published by McGraw Hill in 2006. He holds more than 30 U.S. patents, with 11 more pending.

Dr. Lee was one of a team of pioneers in developing advanced wireless technology — AMPS — for Bell Labs. His UHF mobile radio propagation model is known as the Lee Model. In 1979, he then joined the ITT Defense Communications Division, where he headed the advanced mobile communications system. In 1985, he joined PacTel (which then became Vodafone AirTouch in 1999) where he was Vice President and Chief Scientist. He was elected as co-chair of ARTS Committee of CTIA in selecting the second generation cellular system for USA (1987-1988). During his tenure in 1989, he assisted in CDMA research and the initial trial of the technology for Qualcomm in San Diego. Dr. Lee then led PacTel's PCS experimental trial, and under his leadership, the first CDMA phone call was completed in Los Angeles in 1995.

Dr. Lee has been elected as an IEEE Fellow and has served as a member of numerous Councils, including the California State Council on Science and Technology (Fellow); the US Council on Competitiveness; a former member of

the FCC Technical Advisory Council from 1999-2001; a member of the Electrical and Computer Engineering Board of Advisors/Industrial Affiliates, University of California, Davis.



## NATEA Introduction

North America Taiwanese Engineers' Association (NATEA) was founded by a group of engineers and scientists originated from Taiwan on March 2, 1991 in Silicon Valley, California. Its mission is to promote technological knowledge and applications, and to provide professional development for Taiwanese Americans and local mainstream community at large. In addition, NATEA serves as the bridge between Taiwan and North America for job opportunities, talent searches, venture capitals and business entrepreneurs.

NATEA is a non-profit professional organization. It serves its members and their communities in different social gatherings; organizes a variety of technological conferences, workshops, seminars independently or in association with local professional organizations through 10 different internal Special Interest Group (SIGs). All the events are open to the general public. NATEA working with its twelve (12) regional chapters also offers scholarships to needy high school students in Silicon Valley and other cities. NATEA has more than 1500 general members and can reach more than 2500 professionals through e-mail. Most of the members serve in leading-edge technical and managerial positions in various businesses sectors in Silicon Valley and other cities across North America. Noticeably, many NATEA members are founders of some of the most successful companies in the high-tech and general technological industries. <http://www.natea.org/>



IEEE Santa Clara Valley Communications Society ([SCV ComSoc](http://ewh.ieee.org/r6/scv/comsoc/index.php)) focuses on all aspects of the advancement of the science, engineering, technology and applications for transferring information between locations by the use of signals. This includes: sources and destinations involving all types of terminals, computers and information processors; all pertinent systems and operations to bring about this transfer; guided and unguided transmission media; switched and non-switched networks, and network layouts, protocols, architectures and implementations.

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