

**Monday, 29 April**

8:50 - 10:20

Astor Ballroom 7th Floor

**HOW TO PREPARE ENGINEERS FOR TOMORROW'S NETWORKS**

Organizer: Anant Kumar Jain, *Lucent Technologies*

Speakers: Richard A. Thompson, *University of Pittsburgh, USA*;  
Lawrence Bernstein, *Stevens Institute of Technology, USA*;  
Victor S. Frost, *University of Kansas, USA*;  
S.G. Zheng, *University of Texas at Dallas, USA*

This panel session will examine if there is a need to expand or refine the curriculum to have more focus on Telecommunications and Data Communications courses. Does industry find that the engineers are well prepared to deal with almost continuously changing technology and requirements in this evolving industry? This session will try to identify the gaps, if any, in the existing curriculum with respect to industry expectations. Should there be degree/certificate courses offered in more specialized fields like Optical Networks, Broadband, Wireless, Internet and Access? Do the students get enough hands-on exposure? Maybe the Continuing Education programs currently offered in academia and industry address this issue. What new joint programs, academia and industry could be devised to train the future work force? The panelists will present their views on this problem and how to solve it.

10:40 - 12:20

Astor Ballroom 7th Floor

**SECURITY AND INFORMATION ASSURANCE**

Organizer: Manu Malek, *Stevens Institute of Technology*

Speakers:

Ed Amoroso, *AT&T, USA*

Title: "Protecting National Infrastructure from Cyber Attack"

Naftaly Minsky, *Rutgers University, USA*

Title: "Towards Trustworthy Enterprises, and Secure B2B E-Commerce"

Timothy Tsai, *Avaya Labs, USA*

Title: "Buffer Overflow Vulnerabilities and Solutions"

Information is one of the major assets of any organization or business. Information security is the process of protecting the information. It includes many phases: inspection, protection, detection, reaction and reflection. The cornerstones of security are authentication, confidentiality, integrity, and non-repudiation. Additional building blocks include awareness, access, authorization, availability, and accountability. Information Assurance refers to operations that protect and defend information and information systems by ensuring information availability, integrity, authentication, confidentiality, and non-repudiation. This session addresses these issues with an emphasis on their business impacts. Topics to be discussed include:

- Security issues in e-business
- Information security planning phases
- Security techniques and mechanisms
- Security threats
- Communications security
- Security standards
- E-commerce and M-commerce security
- Secure electronic payment protocols and systems
- Critical business issues
- Security risk quantification and management
- Backup and disaster recovery planning and implementation

13:40 - 15:10

Astor Ballroom 7th Floor

**NETWORK RELIABILITY - PERSPECTIVES FROM INDUSTRY LEADERSHIP**

Organizer: Karl F. Rauscher, *Lucent Technologies*

Speakers: P. J. Aduskevicz, *AT&T*, Karl F. Rauscher, *Lucent Technologies*, others TBD

The reliability of public communications networks is vital to economic stability, public safety and national security. The industry's Network

Reliability Steering Committee has monitored the U.S. public switched networks for ten years and has developed world class processes for analyzing network outages. The Federal Communications Commission chartered Network Reliability and Interoperability Council has expanded the scope of outage monitoring to include other networks: packet switched, wireless, cable and the Internet. The NRIC has also developed Best Practices that are highly effective in assuring optimal network reliability. This executive session will feature industry leaders who will provide highlights from their perspectives in leading critical industry network reliability fora.

15:30 - 17:00

Astor Ballroom 7th Floor

**SEPTEMBER 11 NYC WTC WIRELESS EMERGENCY RESPONSE SEARCH AND RESCUE EFFORT**

Organizer: Karl F. Rauscher, *Lucent Technologies*

Speakers: Karl F. Rauscher, *Gee Rittenhouse, Lucent Technologies*; Russ Waughman, *AT&T Wireless*

The Wireless Emergency Response Team was established on the night of September 11, 2001 to provide coordinated wireless industry mutual aid support for Search and Rescue efforts at the World Trade Center rubble. This session will provide an update on progress made in the areas of Network Surveillance & Analysis and Ground Zero Locating capabilities.

**Tuesday, 30 April**

10:40 - 12:10

Astor Ballroom 7th Floor

**INTERNET QoS: TECHNOLOGY, STATUS, AND DEPLOYMENT**

Organizer: Curtis Siller, *Cetacean Networks, Inc.*

Speakers: Andrew Malis, *Vivace Networks, Inc.*; Sean S. B. Moore, *Cetacean Networks, Inc.*; Peter Sevcik, *NetForecast, Inc.*, Rick Wilder, *Masergy, USA*

Significant effort has been expended on technical understanding, standardizing and now implementing QoS techniques for IP networks. Consequently, this session will examine that maturing activity as it relates to available technology, deployment plans and service provider experiences. In particular, prominent technology advocates, carriers and scientists will speak to what is available, what can be expected, which of the plethora of techniques will afford more than over provisioning, and whether we should hope for something else. Their insights should prove invaluable to communications business planners and decision makers, especially in the context of VoIP and converged networks.

13:40 - 15:10

Astor Ballroom 7th Floor

**INNOVATIVE TELECOMMUNICATIONS DEVELOPMENTS IN EMERGING AND TRANSITION ECONOMIES**

Organizer: Ferdo Ivanek, *Communications Research*

Invited speaker: Sam Pitroda, *Worldtel*

IEEE Region 8 speaker: Yuri Zubarev,

*Radio R&D Institute, Russian Federation*

IEEE Region 9 speaker: Antonio Carlos Bordeaux Rego,

*CPqD - Telecommunications R&D Center, Brazil*

IEEE Region 10 speaker: TBD (China)

This session addresses the business impact of current and prospective innovative contributions to telecommunications development in emerging and transition economies of IEEE Regions 8, 9 and 10. The primary goals in those countries, which account for the great majority of the world population, are to accelerate the increase of teledensities and to competitively participate in the process of "globalization". Past R&D and manufacturing accomplishments include cost competitive digital switches optimized for use in lower teledensity infrastructures. More recently, wireless substitutes for inadequate wired infrastructures helped to accelerate teledensity increases, and innovative approaches are evident

in a number of other telecommunications applications. Competitive software development is well advanced in emerging and transition economies, and is highly promising for future telecommunications applications worldwide.

Speakers from Russia, Brazil and China will talk on innovative telecommunications developments in the three largest emerging or transition economies in IEEE Regions 8-10. Coverage will range from R&D and manufacturing activities, to competitive service deployment, and to cooperative ventures within the global framework. The introductory invited speaker will address basic problems of telecommunications development, and will discuss the experience with the innovative approach by Worldtel.

15:30 - 17:00

Astor Ballroom 7th Floor

**HOME NETWORKING - THE TECHNOLOGY**

*Organizer:* Dave Marples, *Inventures Inc.*

*Speakers:* John Barr, *Open Services Gateway Initiative (OSGi)*; Tom Reed, *HomePlug*; Steven Ungar, *Vesa Home Networking*

The single PC, connected to the Internet, is a model that is no longer applicable in the modern technologically sophisticated home. More PCs, game consoles and even potentially home appliances all need to be able to communicate, both to other local devices inside the home and to other entities out on the Internet.

There are many approaches for meeting this requirement for networking home components together; Physical level standards such as HomePNA, HomePlug, 802.11, HomeRF. Intermediate layer standards such as HAVI and UPnP and service layer standards such as OSGi. Each has particular attributes and a typical home will in fact have a heterogeneous mix of components supporting many of these according to the requirements of the devices connected.

With so many approaches and such an alphabet soup, it's hard to keep all their names and abilities clear. This session provides an overview of the different home networking technologies with both vendor and user points of view presented.

Wednesday, 1 May

8:50 - 10:20

Astor Ballroom 7th Floor

**METROPOLITAN NETWORKS: TRENDS, TECHNOLOGIES, AND EVOLUTIONS**

*Organizer:* Nasir Ghani, *Sorrento Networks Inc.*

*Speakers:* Charles Barry, *Luminous Networks*; Kai Eng, *Village Networks*; Ronald J. Kline, *Metro & Long-Haul Transport, RHK*; William L. Martin, *Whiterock Networks*

Metropolitan area networks interconnect long-haul and access domains, and are traditionally comprised of legacy TDM SONET/SDH infrastructures. Today, these networks must scale to handle continually surging and unpredictable traffic demands and support a growing, disparate range of end-user protocols. Here, the legacy TDM architectures are proving very problematic, and furthermore, the rapid induction of long-haul DWDM optical technology has created a notable metro bottleneck, i.e., "metro-gap." It is now clear that similar technology must also be introduced into the metropolitan arena, as it presents the most scalable, flexible alternative. Nevertheless, even though the metropolitan market is poised for large-scale growth, significant technological and deployment issues remain to be addressed. This session explores the key issues in this important topic area, including underlying market and services drivers, emergent technologies, network architectures, and network migration and economics, etc. Throughout, the discussions will give particular emphasis on defining the most relevant, open research topics in this rapidly evolving area.

10:40 - 12:10

Astor Ballroom 7th Floor

**OPTICAL INTERNETWORKING - MYTH OR REALITY?**

*Organizer:* Douglas N. Zuckerman, *Doug Zuckerman Associates, Inc.*

*Speakers:* John Strand, *AT&T*; Subir Biswas, *Tellium*; Gerry Baranano, *NortelNetworks*; Ann von Lehmen, *Telcordia*

There is no shortage to the excitement surrounding developments in the telecommunications and data networking industries. In the past year, technologies such as WDM, gigabit ethernet, and giga/tera-bit switches and routers have all drawn the attention of the industry. Behind this wave of technology lies opportunity. These technologies provide the opportunity to improve networks in terms of simplicity, scalability, performance, as well as cost. Organizations building these next generation networks have the opportunity to realize these benefits. Industry bodies such as the Optical Internetworking Forum (OIF), IETF, T1M1, ITU-T and TMF have been working towards accelerating the standards and implementation of these next generation optical internetworks. Meanwhile, issues still remain on how and when such networks will play in with existing network and operations infrastructure. Important issues also still remain for their integration and associated operating expenses. In this session, some of the telecommunications industry's key leaders will share their perspectives on the "myth vs. reality" for realizing cost-effective, scaleable, high performance networks for the current millennium.

13:40 - 15:10

Astor Ballroom 7th Floor

**THE FUTURE OF THIRD-GENERATION NETWORKS**

*Organizer:* Ibrahim Habib, *City University of New York, USA*

*Speakers:* Klaus D. Kohrt, *Siemens, Germany*; Franco Vatalaro, *University of Rome at Tor Vergata, Italy*

This panel will discuss the business case, value-added proposition as well as possible deployment scenarios for 3G networks. New revenues from new services are crucial to operators in order to obtain a return on the huge investments made in purchasing 3G licenses in Europe. Many believe that there is no new killer application that will be enabled by 3G, but rather new services that will take time to gain market share. However, how can operators offer such new services at cost-effective prices and still get a return on their investments?

15:30 - 17:00

Astor Ballroom 7th Floor

**WIRELESS LOCAL-AREA NETWORKS: TECHNOLOGIES AND BUSINESS OPPORTUNITIES**

*Organizers:* Kin K. Leung, Paul S. Henry, *AT&T Labs-Research*

*Speakers:* Kumar Balachandran, *Ericsson Research, USA*; Paul Henry, *AT&T Labs - Research, USA*; Al Petrick, *IceFyre Semiconductor, Canada*; Joel Short, *Nomadix, USA*

Recently, IEEE 802.11b wireless local-area networks (WLAN) have been widely deployed and used in offices, schools, airports, convention centers, hotels, coffee shops and homes. With the WLAN, users can obtain end-to-end wireless IP services, which include wireless Internet access, remote access to office computers, and nomadic computing. Many laptop computers and wireless communication devices are now equipped with the WLAN capability.

This panel plans to explore and discuss technologies as well as business opportunities for WLAN. In addition, we shall discuss the interplay between WLAN and 3G/4G cellular networks, and project the future development of WLAN standards.