

## **"Future of Wireless Networks"**

**Dr. George Rittenhouse**



Abstract:

The wireless industry is undergoing a transition. We see the evolution from cellular 2G to 3G standards, the migration from circuit to packet applications, and the procession of voice to data. We also see the industry incorporating new wireless access technologies such as WiFi and WiMAX. All of this is occurring in a market place where voice subscriber penetration levels in many parts of the world are saturating and there is incredible pressure to reduce network capital and operating costs. These conditions present significant technology challenges to increase customer demand and further increase network capacity to lower network costs. In this talk we will review the market drivers and applications that will drive the next-generation services. We note that in response to these the network architecture will migrate to having more control at the edge with substantially more direct base station to base station communication. We will then present several technologies that address these issues

Bio :

Dr. Rittenhouse received his undergraduate degree in physics from the University of California, Los Angeles. Then in 1993 received his PhD in electrical engineering and computer science from the Massachusetts Institute of Technology. He joined Bell Laboratories as a member of technical staff in 1993 where he worked on high-speed circuits using X-ray lithography for optical networking applications. He later joined the Wireless Research Laboratory at Bell Laboratories where his research focused on RF front-end radio architectures and cellular system engineering. In 2000 he was promoted to Director of the Wireless Technology Research Department and led several projects including MIMO system development, network optimization, wireless IP networks, and

fourth generation wireless systems. In 2002 he received the Bell Labs Fellow award. In 2003 he was promoted to Vice President, Wireless Research. In this new role he is responsible for strategy, technology innovation, and the integration of wireless research into Lucent. He has numerous publications and patents in the areas of wireless systems and circuits.