

# PODCAST: IEEE WCET Program Chair Rulei Ting Interviews with Wireless Design and Development broadcast host



In this podcast, Rulei Ting, Chair of the IEEE WCET program speaks with *Wireless Design and Development* magazine's broadcast host Janine E. Mooney, about the **IEEE Wireless Communication Engineering Technologies Certification Program**.



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Interview**

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Here's the summarized script of this Podcast interview.

**1. Can you briefly describe your background in the wireless field? How did you get started? What do you consider your greatest successes?**

I have been with AT&T Bell Labs for twenty years, with responsibilities ranging from Distinguished Member of Technical Staff to Senior Manager. Our teams contributed to the technology and business successes in Optical Networking, Data Networking, Wireless Networking and Network Operations that delivered multi-billion dollar revenues. I participated AT&T and Lucent's business development and expansion in Asia Pacific region. I also served as Senior Director of Advanced Technology and Strategic Planning in telecommunication equipment venture start-ups.

I'm a recipient of AT&T Bell Labs President's Quality Award; IEEE Millennium Award; and IEEE Region-1 Award, and I hold two US patents. I earned B.S. degrees from Shanghai Jiao-Tong University, China; Ph.D. from CUNY, New York, and earned Executive Master's Degree in Management of Technology from The Wharton School and Penn Engineering of University of Pennsylvania.

**2. What is the IEEE WCET program? When was it launched? Why was it developed?**

Introduced in March 2008, after more than a year in preparation, the [IEEE WCET program](#) was developed by the IEEE Communications Society to address the worldwide wireless industry's growing need for professionals with real-world problem-solving skills. The certification provides practicing wireless communications professionals with an internationally accepted credential of their expertise. The benefits to both wireless professionals and employers include:

- Certifying the practitioner's knowledge of key wireless applications, technologies and standards
- Helping individuals working in other engineering areas to switch to the wireless field as new, exciting and higher paying opportunities arise
- Identifying qualified engineers for challenging positions as well as transfer from other communications fields
- Screening job applicants on the basis of demonstrated ability, while assessing employees for increased responsibilities and promotions
- Reducing the costs, time and resources associated with the development and implementation of employer in-house wireless training programs

**3. Can you briefly describe the testing program?**

To qualify for the [IEEE WCET](#) designation, candidates with a bachelor's or comparable degree from an accredited institution and at least three years of professional wireless engineering experience must pass the program's detailed comprehensive examination held twice annually in the spring & fall. Administered on computer at selected worldwide locations, the official [IEEE WCET](#) exam is composed of 150 multiple choice questions with each applicant given up to four hours to complete the exam. The US\$500 fee (\$450 for IEEE and IEEE ComSoc members) covers the application fee, processing, the "seat fee" for taking the test, scoring and score reporting, and a certificate sent to those who pass the exam.

The Program itself, which is vendor-neutral and trans-national in scope, was devised by IEEE ComSoc and launched under the guidance of Professional Examination Service (PES), a renowned professional credential developer with a 60-year-old history of creating, implementing, and enhancing quality programs.

Among these efforts was the organization of a Practice Analysis Task Force (PATF) that included 16 wireless industry experts from Australia, Egypt, India, Japan, Malaysia, the United States, and Uruguay. With their combined knowledge of the wireless industry, the PATF developed a draft Delineation highlighting the technical areas of responsibility, tasks, and knowledge that might be expected of engineering practitioners seeking WCET certification. The seven Delineations include the areas of RF engineering, propagation, and antennas; access technologies; network and service architectures; network management and security; facilities infrastructure; agreements, standards, policies, and regulations; and fundamental knowledge.

**4. How can candidates prepare for this test?**

To aid the exam's preparation, IEEE ComSoc worked with IEEE WCET committees and PES to create a series of ongoing resources. This includes the launch of an informational web site located at [www.ieee-wcet.org](http://www.ieee-wcet.org) that contains regularly updated details such as testing dates and locations, application information, examination specifications, training organization links, a glossary and sample questions.

Another feature available through the site is a 75-question practice examination that offers the opportunity to gauge the applicant's preparedness for the official IEEE WCET exam. Each practice examination consists of questions reviewed by WCET subject-matter experts and for a one-time fee of \$75 can be taken up to four times by a single individual prior to sitting for the official IEEE WCET exam.

Other resources include free subscriptions to the bi-monthly [IEEE Wireless Communications Professional electronic newsletter](#) and a [free Candidate's Handbook](#) covering policies, subject area details, reference sources, and sample questions. Also soon to be introduced is the [Wireless Engineering Body of Knowledge \(WEBOK\) book](#), which outlines the scope of wireless technologies and cites numerous wireless communication reference sources.

In addition, IEEE ComSoc now also offers an ongoing [series of online and in-person learning formats](#) designed to not only help IEEE WCET candidates prepare for upcoming exams, but also increase their overall knowledge of the wireless field.

## **5. Why is the IEEE WCET Program important? How does it meet current industry needs?**

The proliferation of wireless communications is rapidly shaping and re-shaping every phase of life and business. Numerous worldwide industries representing finance, healthcare, transportation, public safety, security, government and utilities are already expanding operations with advanced technologies that instantaneously relay text, data and visuals to widespread locations, while controlling any number of remote devices.

As a result, the opportunities for certified wireless professionals that can clearly demonstrate their skills in the global domain appear virtually unlimited. This is especially true as the next wave of mobile applications and services expand the industry's frenetic growth throughout the industrialized world as well as the planet's most remote regions. In addition, users are increasingly expecting fancier and faster results accessible anywhere on the road or any country. For these reasons, the potential for such individuals is almost boundless.

- According to Forrester Research, tablets will become the primary computing device for most users within the next four years. They also predict that tablet sales will approach nearly 400 million units by 2016
- According to Cisco, over the next five years mobile device subscriptions are expected to hit 7.1 billion
- Morgan Stanley predicts that mobile device use could easily top 10 billion units by 2020
- Cisco says that mobile traffic nearly tripled in 2010 and is expected to increase another 26-fold by 2015
- Last year's mobile data traffic was 8x the size of the entire global Internet in 2000
- Business Insider recently reported that more people now have mobile subscriptions than access to electricity and safe drinking water

## **6. How successful have these Programs been to date?**

The IEEE WCET and IEEE ComSoc Training programs are still in their infancy. However, ComSoc Training doubled its attendance from the first year of its launch to its second year in operation. Hundreds of professionals worldwide are also currently benefiting from the IEEE WCET credential.

## **7. How is the Program continuing to evolve?**

The IEEE Communications Society, which is currently celebrating its 60th anniversary, has more than 50,000 members and now includes more than 200 international Chapters and working relationships with an additional 30 international Societies to extend its international reach to another 500,000 engineers, scientists and industry professionals. The society and its many multi-national initiatives are regularly reaching out to these high-level global resources to constantly review and refresh all of our Programs.

The IEEE WCET Program was originally developed by more than 100 global industry experts and experienced wireless practitioners and continues to evolve through the ongoing efforts of dedicated volunteers involved with the upgrade of the program delineations and development of fresh questions. Our review committee alone represents professionals based in the United States, Europe, Asia Pacific, Malaysia, Middle East, South America and Africa.

## **8. What should everyone know about the IEEE WCET Program and IEEE ComSoc?**

Founded in 1952, IEEE ComSoc, which has over 50,000 members and stands as the second largest of IEEE's 38 technical societies, is recognized internationally for its premier conferencing events, industry-leading technical publications and journals, world-class certification and educational programs, and global network of technical professionals and standardization projects.

The Society is also dedicated to utilizing the best talent, education and training to secure open career paths filled with advancement and developing the next wave of communications leaders. Anyone interested in taking the IEEE WCET exam or participating in an IEEE Training course should know that they are working with a world-accredited organization, which has been recognized as the premier intellectual resource of the communications industry for the past six decades.

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