

## **IEEE GLOBECOM 2011 Completes One of its Most Success Events in Conference History**

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*Nearly 2,500 Industry Professionals Attend More Than 1,400 Presentations Focused on Worldwide Communications Technology Innovations & Advancements*

IEEE GLOBECOM 2011, the premier international conference dedicated to communications technologies worldwide, recently concluded one of the most successful events in its 54-year history as nearly 2,500 scientists, government officials and academics in Houston, Texas attended over 1,400 presentations dedicated to real-world engineering, telecommunications and IT business system innovations. Themed "Energizing Global Communications," GLOBECOM 2011's technical agenda ranked among the top five in its history and one of the largest and most diverse in the past half century due to the receipt of approximately 4,000 submissions from professionals representing 73 separate countries and the presentation of more than 1,070 original papers.

Beginning Monday, December 5, IEEE GLOBECOM 2011 initiated its agenda with a full day of tutorials and workshops covering topics such as underwater sensor, smart grid and wireless vehicle communications as well as the start of IEEE GEOS Forum XLIV focused on the proliferation of sensor and signal processing networks throughout the world's most rural areas. Other first-day landmarks included the grand opening of the conference's exhibition, which offered displays from corporate leaders like Fujitsu, AT&T, NTT Docomo, Cambridge University Press, Springer and Wiley.

On Tuesday morning, IEEE GLOBECOM 2011 then officially commenced with introductions from Conference Chairman General Chair Lee Gaspard, Technical Program Committee Chair Xi Zhang of Texas A&M University and IEEE ComSoc President Byeong Gi Lee. Immediately afterwards, John Donovan, Chief Technology Officer at AT&T, began the program's keynote schedule with his address on "Mobile Innovation" and the "Advance of the Mobile Broadband Experience."

During his speech, Donovan challenged his audience to ignore their laptops and emails for the next hour, while recounting his efforts to do the same during one recent business day at AT&T. This exercise was then used by Donovan to illustrate the world's rising dependence on mobile connectivity, which today includes the use of more than five billion worldwide devices and a growth cycle that will likely expand usage by 8,000 percent over the next four years. Also highlighted was the continued advance of mobile devices that will likely evolve into "contextual, relevant and natural companions" delivering seamless, real-time applications through "cloud computing formats that are reliable as oxygen." Examples included the use of "smart" pill bottle caps that record every opening, shoes that alert

caregivers to the falls of elderly persons and personal and medical information stored on cloud platforms for rapid retrieval from virtually any mobile device at anytime.

Afterwards, the conferences comprehensive agenda then proceeded with three days of panel discussions, technical symposia and paper presentations. This included the introduction of the new Industry Forum & Expo designed specifically to further telecommunications knowledge through 18, two-hour sessions featuring the new services, applications, regulatory impact assessments and engineering best practices. Among these sessions was the "Executive Forum on Cloud Computing" hosted by Johan Krebbers of Shell International; Kazuhiro Gomi, CEO & president of NTT America; and Hossein Eslambolchi, chairman & CEO of 2020 Venture Partners LLC.

Throughout the mornings Executive Forum, each senior executive outlined the expansion of global cloud services that are rapidly increasing the ability of businesses to store, process, and access vast amounts of corporate and industry data in virtual environments that offer increasingly affordable and flexible combinations of public cloud and customized "hybrid" cloud solutions. Designed to replace/enhance data center structures that are already obsolete for handling global traffic expansion over the next decade, these experts also detailed their cloud computing expectations from the corporate users viewpoint, service providers vantage, and investment consultants opinion. Predictions include 12-fold growth over the next four years, automated provisioning of virtual computer resources that are operated and maintained with "minimal manual effort" and flexible "play-as-you-go billing."

Tuesday afternoon then saw representatives of Telcordia, AT&T, Hibernia Atlantic, NYSE Euronext, Futurewei Technologies and numerous other global providers and research institutions further the discussion of end-to-end global infrastructures, public and homeland security communications and xDSL access technologies during the next wave of industry forum presentations. For instance, the Undersea Cable Infrastructure (UCI) Forum identified strategies for overcoming geographic vulnerabilities, while Broadband Forum II focused on the latest PON solutions for ensuring platform multi-service excellence.

On Wednesday, December 7, IEEE GLOBECOM 2011 launched the first of two full days of industry technical presentations committed to 4G wireless communications theories, smart grid strategies, aerospace power technologies, cyber security and emergency response. Throughout these days, researchers and developers from MathWorks and National Instruments addressed wireless design and develop practitioners on topics like "How Basic Communications Theory Turns into 4G Wireless Systems" and "Open Programmable Rapid Prototyping and Test Bed Frameworks." "AT&T Mobility Applications for Emergency Response: AT&T Disaster Recovery and Real Time Tracking & Transport" also tackled business continuity concerns and commercial operational efficiencies. Each session was specifically designed with real-world examples and case studies to assist with the design, development, operation and optimization of 4G LTE wireless systems, the tools needed to turn concepts into working prototypes as well as the development of

mission-critical emergency communications and business solutions.

Other highlights on the day included the address of Professor Laurence Millstein, Ericsson Chair Professor of the University of California, San Diego, who spoke on "PHY-APP Cross-Layer Design for Mobile Video." Attended by over 1,000 of attendees, Professor Millstein focused on the cross-layer multi-level optimization techniques that can currently be utilized by wireless networks to better meet the growing transmission demands for 25 to 30 frames per second of mobile video, which is expected to consist of nearly 91 percent of all Internet traffic by 2015.

The conferences final day of keynotes, Industry Forums, technical symposia and technical presentations on Thursday were earmarked by the discussion of topics ranging from 4G communications, next generation aerospace power technologies and smart grid renewable energies to interference management, satellite coding and cooperative communications. In the morning, Farnam Jahnian, Assistant Director/CISE Directorate at the National Science Foundation, also addressed "Innovating for Society: Realizing the Promise of Computing & Communications." During his keynote, Dr. Jahnian spoke about national IT priorities and their role in "transforming the way we work, learn, play and connect." This includes the "breathtaking pace of advances" that will turn "cloud computing into a \$150 billion service industry by 2014" and "generate the equivalent of approximately 93 million Library of Congresses by 2015."

However, he also warned that this explosive growth would also be accompanied by "energy demands that will likely double by the year 2030." As a result, he emphasized the national need to expand the countrys information technology resources through the ongoing expansion of an advanced talent pool that today is still largely male and mostly devoid of minorities with advanced computer science degrees. Aimed at resolving these problems, Dr. Jahnian emphasized the importance of stimulating student technical interests and proactively working with school officials at every level to fill the computer science and engineering talent "pipe-line."

On the conferences final day, IEEE GLOBECOM 2011 then concluded with 14 tutorials and workshops embracing topics such as "Information Warfare," "Smart Grid Communications & Networking," "Complex Networks and Pervasive Group Communications," "Ubiquitous Computing and Networks," "Multicell Cooperation," "Broadband Wireless Access" and "Machine-to-Machine Communications."

The IEEE Communications Society has over 50,000 members and is the second largest of IEEE's 38 technical societies. Founded in 1952, it has become the major international forum for the exchange of ideas on communications and information networking.

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