Note: Images available at: http://dam.engineering.nyu.edu/?c=2076&k=fedf072b49

Immediate Release:

Thursday, April 19, 2018

THE 5TH ANNUAL BROOKLYN 5G SUMMIT ENVISIONS
NEW WORLD OF SUPER-FAST WIRELESS

BROOKLYN, New York – Researchers, policy makers and others in academia and industry will gather for the fifth anniversary of the annual Brooklyn 5G Summit at New York University’s Tandon School of Engineering. The event, April 24-26, 2018, will explore innovations in products and services for the next generation of wireless communications.

The Summit, available via livestream, is jointly organized by NYU WIRELESS and Nokia, and will explore 5G New Radio — the backbone wireless standard for 5G — including 5G for autonomous vehicles, 5G cloud technology, phased-array antennas, the latest advances in millimeter-wave (mmWave) hardware, and network automation with artificial intelligence (AI). The event features leaders from companies driving the momentum for 5G, including Nokia, AT&T, Ericsson, Huawei, National Instruments, Qualcomm, Verizon, and InterDigital; companies such as BMW, Toyota and Bosch that are laying the groundwork for 5G-enabled products; and the Federal Communications Commission (FCC) and the National Science Foundation.

5G – Ready for Takeoff

Theodore (Ted) S. Rappaport, the Ernst Weber/David Lee professor of electrical engineering at NYU Tandon, and Amitava Ghosh, Nokia Fellow and Head of Radio Interface Group Standardization Research at Nokia Bell Labs, launched the Brooklyn 5G Summit in 2014. In that year the number of mobile-connected devices first exceeded the world’s population, and growth in demand has only increased since then. By 2021 more than three-quarters of the world’s mobile data traffic will be video, a 9-fold increase from 2016, and by 2020, experts predict there will be some 20 billion IoT (Internet of Things) devices worldwide.
NYU WIRELESS, part of NYU Tandon’s Department of Electrical and Computer Engineering, is located in the hub of Brooklyn’s Tech Triangle — a globally recognized hotbed of wireless research, game development, green tech, and more — and is helping establish Brooklyn’s Innovation Coastline. Rappaport founded the center in 2012 soon after arriving at what was then called Brooklyn Polytechnic from the University of Texas at Austin. Now under the direction of NYU Tandon Professor of Electrical and Computer Engineering Sundeep Rangan, the center is keeping a steady drumbeat of innovation and research, including:

- **A project with the Austin, Texas Fire Department to develop and test mmWave technology for first responders that will support high-definition images from drones, ambulances, and from robots in environments too dangerous for humans, all in real time.**
- **COSMOS**, a multi-institute collaboration for a square-mile 5G test bed in upper-Manhattan, a project supported by a $22.5 million grant from the National Science Foundation that will allow researchers to test some of the biggest promises of 5G, including applications such as VR/AR and autonomous vehicles.
- **NYU WIRELESS’ pioneering research is guiding the FCC’s and industry’s drive to lay the groundwork for 5G, including last year’s Spectrum Frontiers proposal.** The center also helped test, debug, and provide feedback on a new FCC portal that streamlines the experimental bandwidth licensing process (the center was the first applicant to receive a Program Experimental License through the portal).

“Ultra-fast connectivity delivering huge data rates is just around the corner, and NYU WIRELESS is proud to help industry, government, and standards organizations make strides towards that goal,” said Rappaport. “While our research has proven the viability of the mmWave spectrum and above, we are also thrilled to have played a tangible role in shaping the 5G landscape, which promises innovations that were unimaginable just a few years ago.”

Added Rangan, “The advent of blazingly-fast, near-zero latency wireless will be a game changer not just for traditional telecommunications, but for countless applications, including IoT, vehicle-to-vehicle and vehicle-to-cloud communications enabling self-driving cars, 3-D streaming video, near-instant video downloads, and much more.”

---

In 2018, NYU WIRELESS industry affiliates such as Nokia begin deployment of 5G networks in the United States and beyond:

- **Nokia** and T-Mobile this year begin roll-out of a nationwide 5G multi-band network in the United States using the commercial Nokia 5G solution, completing the deployment during 2020.
- **AT&T** will launch mobile 5G to customers in a dozen cities by the end of this year.
- **Verizon**, which recently opened a 5G-enabled Open Innovation lab in New York to cultivate startups and innovations, aims to have 5G networks deployed in up to five U.S. markets by year’s end, starting with Sacramento, California.
- **Qualcomm’s** new Snapdragon X50 5G modem will drive 5G New Radio (NR) trials worldwide by numerous carriers, including in the mmWave spectrum bands.
- **National Instruments** this year launches the first 5G NR field trials for 28GHz with Samsung.
This year’s Summit will include presentations by industry leaders, such as Marc Rouanne, president of Nokia Mobile Networks; and Melissa Arnoldi, President, Technology & Operations, AT&T Communications.

NYU WIRELESS demonstrations include:

- An end-to-end mmWave Cellular simulation platform.
- Massive MIMO and mmWave Channel Emulation, a pioneering, cost-effective programmable channel emulator for high bandwidth, large antenna array systems.
- A demonstration of high quality virtual reality streaming via a 5G mmWave channel.
- A mmWave live demonstration showcasing the performance of a gigabits-per-second-capable system, operating both at millimeter-wave and sub-6 GHz frequencies.

To learn more about the past five years of pioneering research at NYU WIRELESS visit http://engineering.nyu.edu/press-releases/2017/08/10/nyu-wireless-celebrates-five-years-pioneering-research-making-5g-communic.

To watch the livestream of Summit proceedings, April 25-26, provided by the IEEE Communications Society and sponsored by OnScale, register at https://register.comsoc.org/content/brooklyn-5g-summit-2018. Join the conversation: @NYUWIRELESS, @NYUTandon, @Nokia, #B5GS. For more information, visit http://brooklyn5gsummit.com.

About NYU WIRELESS
NYU WIRELESS is a multi-disciplinary academic research center that offers an unprecedented and unique set of skills. Centered at New York University’s Brooklyn engineering location and involving more than 200 faculty and students throughout the entire NYU community, NYU WIRELESS offers its faculty, students, and affiliated sponsors from industry a world-class research environment that is creating the fundamental theories and techniques for next-generation mass-deployable wireless devices across a wide range of applications and markets. This center combines NYU’s Tandon School of Engineering program, School of Medicine and Courant Institute of Mathematical Sciences, and offers a depth of expertise with unparalleled capabilities for the creation of new wireless circuits and systems as well as new health care solutions for the wireless industry. For more information, visit wireless.engineering.nyu.edu.

About the New York University Tandon School of Engineering
The NYU Tandon School of Engineering dates to 1854, the founding date for both the New York University School of Civil Engineering and Architecture and the Brooklyn Collegiate and Polytechnic Institute (widely known as Brooklyn Poly). A January 2014 merger created a comprehensive school of education and research in engineering and applied sciences, rooted in a tradition of invention and entrepreneurship and dedicated to furthering technology in service to society. In addition to its main location in Brooklyn, NYU Tandon collaborates with other schools within NYU, one of the country’s foremost private research universities, and is closely connected to engineering programs at NYU Abu Dhabi and NYU Shanghai. It operates Future Labs focused on start-up businesses in downtown Manhattan and Brooklyn and an award-winning online graduate program. For more information, visit http://engineering.nyu.edu.
Keywords: wireless, data, mobile, cellular, millimeter-wave, 5G, self-driving cars, telecommunications, IoT, Internet of Things, New Radio

www.facebook.com/nyutandon

@NYUTandon