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Note: Images available at

<https://nyutandon.photoshelter.com/galleries/C0000DKT3j1AvpA/G0000af1W04InY0s/Marzetta-Radio-Club>

Immediate Release

Radio Club of America awards Armstrong Medal to originator of Massive MIMO antenna technology

Thomas Marzetta becomes second consecutive wireless researcher at the NYU Tandon School of Engineering to be recognized for seminal contributions

BROOKLYN, New York, Tuesday, October 1, 2019 – The Radio Club of America (RCA), the oldest worldwide organization of wireless communications professionals, has announced that NYU Tandon School of Engineering’s Distinguished Industry Professor of Electrical and Computer Engineering [Thomas Marzetta](#), who was recently named director of [NYU WIRELESS](#), will receive the 2019 Armstrong Medal for his outstanding achievements and lasting contributions to radio arts and sciences.

This marks the second year in a row that a faculty member of NYU Tandon and NYU WIRELESS has garnered the honor: The 2018 winner was [Theodore “Ted” Rappaport](#), the David Lee/Ernst Weber Professor of Electrical Engineering and the founding director of NYU WIRELESS, a multidisciplinary center whose researchers are developing the fundamental theories and techniques for next-generation mass-deployable wireless devices.

Marzetta, who joined NYU Tandon in 2017, is celebrated for originating the concept of Massive MIMO (Multiple-Input Multiple-Output), a key enabler for the fifth generation of wireless technology, or 5G. It utilizes numerous small, individually controlled, low-power antennas to direct streams of information, selectively and simultaneously, to many users. This confers spectral efficiency orders of magnitude greater than that experienced in 4G service, along with high-quality service throughout the cell, simplicity and scalability, and outstanding energy efficiency.

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He is now focusing on the sixth generation of wireless technology. Within a research initiative that he calls “Beyond Massive MIMO,” Marzetta is investigating entirely new principles of operation that could result in wireless systems performing at previously unimaginable levels.

Marzetta’s seminal paper on Massive MIMO, “Noncooperative cellular wireless with unlimited numbers of base station antennas,” published in 2010 in *IEEE Transactions on Wireless Communications*, has been cited well over 4,000 times. The lead author of the text *Fundamentals of Massive MIMO*, he developed the concept during his 22 years at Bell Labs, where he directed the Communications and Statistical Sciences Department within the former Mathematical Sciences Research Center. In 2014, he was accorded the rare honor of being elected a Bell Labs Fellow. Marzetta joins a distinguished group of other recipients of the Armstrong Medal — all luminaries in the wireless industry — including Arthur Collins, Walter Cronkite, Harold Beverage, Morgan O’Brien. Major Edwin H. Armstrong, for whom the medal is named, laid the foundations for much of the modern radio, including circuitry and the FM radio system.

The Armstrong Medal is the latest in Marzetta’s already-impressive list of laurels. A fellow of the IEEE, he has received the Guglielmo Marconi Prize Paper Award, the Stephen O. Rice Prize, the W. R. G. Baker Award, the Fred W. Ellersick Prize, the IEEE Communications Society Industrial Innovation Award, the GreenTouch 1000X Award, and the Thomas Alva Edison Patent Award, among many others.

“Tom Marzetta is among the most respected researchers in the wireless field, and his presence on our faculty affirms the exceptional work being carried out here every day,” said NYU Tandon Dean Jelena Kovačević. “That he and Ted Rappaport have both received the RCA Armstrong Medal, in consecutive years no less, cements NYU Tandon’s status as a leader in wireless technology.”

Marzetta will receive the Armstrong Medal at the RCA’s November 23 Banquet and Awards Ceremony in New York City; a Technical Symposium will be held that same day.

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>.

About NYU WIRELESS

NYU WIRELESS is a vibrant academic research center that pushes the boundaries of wireless communications, sensing, networking, and devices. Centered at NYU Tandon and involving leaders from industry, faculty, and students throughout the entire NYU community, NYU WIRELESS offers its industrial affiliate sponsors, students, and faculty members a world-class research environment that is

creating fundamental knowledge, theories, and techniques for future mass-deployable wireless devices across a wide range of applications and markets. Every April, NYU WIRELESS hosts a major invitation-only wireless summit, in cooperation with Nokia Bell Laboratories, for the center's industrial affiliates and thought leaders throughout the global telecommunications industry. For more information, visit wireless.engineering.nyu.edu.

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