Sheryl M. Genco, Ph.D.
Ericsson: NSC Exec Comm Candidate

Spectrum

Innovation

Leadership

Updated October 2021

Qualification biography

Sheryl M. Genco
Senior Advisor,
Ericsson CTO's office

- Strong and effective representative of the NSC members.
- EM Spectrum-related technology fields
- Collaboration and energy to bring solutions to the U.S. government

Summary
Sheryl M. Genco is a senior advisor within Ericson's CTO's office in Santa Clara, CA. Dr. Genco was also a member of the Senior Executive Service for the Department of Commerce where she was the laboratory director for NTIA's Institute for Telecommunication Sciences. Her contributions have been at the forefront of critical technology areas impacting federal and commercial programs including spectrum efficiency, sharing, and auctions, 5G and broadband, satellite communications, unmanned aviation systems, and radio sciences.

Career overview
Dr. Sheryl M. Genco has over 30 years of experience in engineering and management at a wide range of organizations spanning large industrial, entrepreneurial ventures and the Government sector (NTIA, NIST). She has joined Ericsson to spearhead activities with industry and the U.S. government, innovating and collaborating, to exploit 5G and ultimately 6G for increased security and economic benefits. Her career has focused on the development of new technologies with emphasis on transforming state-of-the-possible ideas into commercial reality. While at NIST and NTIA, Dr. Genco was a strong advocate for spectrum policy guided by rigorous data analysis. Prior to joining NTIA, Dr. Genco was the Senior R&D Manager for Engineering at Honeywell Quantum Solutions, where she led an organization developing trapped ion quantum computers. At NIST, she led the National Advanced Spectrum and Communications Test Network, managing programs in the areas of wireless communications (LTE), 3.5GHz, GPS, and AWS-3. Dr. Genco is an IEEE Senior Member and received Ph.D., M.S., and B.S. degrees in electrical engineering. Dr. Genco delivers exceptional results through collaboration and technology. An example of this is the 5G Challenge she developed between NTIA and DoD. While at NIST, Dr. Genco and her team won the prestigious Department of Commerce Gold Medal after a program to measure and analyze GPS out-of-band effects in the presence of LTE. She co-founded an engineering R&D company that developed synthetic precise nanomaterials for lunar simulants for NASA.

Interests
In addition to technology advocacy and collaborative program development, Dr. Genco's passion is enabling socio-economic prosperity through science and education. Dr. Genco also founded a STEM-focused K-8 public school that has won multiple awards, including the prestigious John Irwin School of Excellence award. The school has educated more than 15,000 students in its two decades of continuous operation.

Area of expertise
- Driving spectrum and communications programs with the DoD and other agencies
- Establishing public/private collaboration in federal, commercial, academic, entrepreneurship

Leadership experience
- Senior Advisor at Ericsson CTO's office in Silicon Valley
- Senior Executive Service Member in the Department of Commerce as NTIA's laboratory director
- Senior R&D Manager for Honeywell Quantum Solutions
- Program Manager for the inaugural years of the National Advanced Spectrum Communications Network at NIST
- Entrepreneur — Start-up specializing in nanoparticles
- Founder of an award-winning math and science public school

Speaking engagements
1. WSRD Workshop on 5G Software, Use and Practice, March 2021
2. 6G Symposium, October 2020
3. Wireless Innovation Forum: Three Day Deep Dive Event: Spectrum Sharing — Past, Present and Future, September 2020
4. NTIA's Policy and Plans Steering Group (PPSG), August 2020
5. Department of Commerce and Colorado Governor Polis Pride Panel: June 2021
6. NTIA's International Symposium on Advanced Radio Technologies (ISART), speaker, host and panel moderator, August 2020
7. Women In Engineering — IEEE 7th World Forum on Internet of Things, June 2021
8. Industry Listening Session: Vendor Diversity for 5G Security, January and February 2021

IEEE Quantum Week 2020
- Engineering Challenges in Building a Quantum Computer
- Panel on Engineering Challenges in Building a Quantum Computer

Awards and Patents

Gold Medal winner—Department of Commerce

U.S. patent: Multiple computer system with combiner/memory interconnection system employing separate direct access link for transferring information packets, EP US JP US5363484A Sheryl M. Genco International Business Machines Corporation

Publications

Articles

- ITS, Air Force Conduct Flight Tests as Part of Mid-Band Sharing Experiment | National Telecommunications and Information Administration (doc.gov)
- NTIA Trusted Propagation Models Help Expand Commercial Wireless Services | National Telecommunications and Information Administration
- ITS Challenges Creators to Enhance Computer Vision for Public Safety | National Telecommunications and Information Administration (ntia.gov)
- 5G Challenge NOI | National Telecommunications and Information Administration (ntia.gov)
- Women in Commerce's NTIA Leadership Making a Difference in Tech Equity | U.S. Department of Commerce
- Championing the Nation's Spectrum Engineers: NTIA and ITS Celebrate Engineers Week | National Telecommunications and Information Administration (doc.gov)
- Aggregate LTE: Characterizing User Equipment Emissions Phase 1 Test and Metrology Plan: Laboratory measurements (nist.gov)
- Spectrum-Sharing Showdown: IIC vs. ESC | 6GWorld

NIST technical reports

- AWS-3 Out-of-Band Emissions Measurements Test and Metrology
- Aggregate LTE: Characterizing User Equipment Emission
- LTE impacts on GPS: final test report

Papers

- Equivalent isotropic response as a surrogate for incident field strength
- Laser communication intersatellite links realized with commercial off-the-shelf technology
- Reduced phase noise in microwave oscillators due to optical signal injection
- Characterization of microwave MESFET circuits under laser illumination: applications to phased array radar, microwave communications and digital clock control
- Parallel optical interconnects utilizing VLSI/FLC spatial light modulators