

Biography

Manijeh Razeghi received the Doctorate d'état ES Sciences Physiques from the Université de Paris, France, in 1980.

Manijeh Razeghi was the Head of the Exploratory Materials Laboratory at Thomson-CSF (France) during the 80's where she developed and implemented modern metalorganic chemical vapor deposition (MOCVD) vapor phase epitaxy (VPE), molecular beam epitaxy (MBE), GasMBE, and MOMBE for entire compositional ranges of III-V compound semiconductors from deep UV to THz. Developing these tools was fundamental in enabling her to achieve high purity semiconductor crystals with a consistency and reliability that was often unmatched, thereby leading to new physics phenomena in InP, GaAs, GaSb, and AlN based semiconductors and quantum structures. She realized the first InP Quantum wells and Superlattices and demonstrated the marvels of quantum mechanics in the low dimensional world.

She joined Northwestern University, Evanston, IL, as a Walter P. Murphy Professor and Director of the Center for Quantum Devices in Fall 1991, where she created the undergraduate and graduate program in solid-state engineering.

She has authored or co-authored more than 1000 papers, more than 35 book chapters, and 20 books, including the textbooks *Technology of Quantum Devices* (Springer Science Business Media, Inc., New York, NY U.S.A. 2010) and *Fundamentals of Solid State Engineering, 4th Edition* (Springer Science Business Media, Inc., New York, NY U.S.A. 2018). Two of her books, *MOCVD Challenge Vol. 1* (IOP Publishing Ltd., Bristol, U.K., 1989) and *MOCVD Challenge Vol. 2* (IOP Publishing Ltd., Bristol, U.K., 1995), discuss some of her pioneering work in InP-GaInAsP and GaAs-GaInAsP based systems. *The MOCVD Challenge, 2nd Edition* (Taylor & Francis/CRC Press, 2010) represents the combined updated version of Volumes 1 and 2. She holds many U.S. patents and has given more than 1000 invited and plenary talks. Her current research interest is in nanoscale optoelectronic quantum devices. From deep UV to THz.

Dr. Razeghi is a Fellow of MRS, IOP, IEEE, APS, SPIE, OSA, Fellow and Life Member of Society of Women Engineers (SWE), and Fellow of the International Engineering Consortium (IEC). She received the IBM Europe Science and Technology Prize in 1987, the Achievement Award from the SWE in 1995, the R.F. Bunshah Award in 2004, IBM Faculty Award 2013, the Jan Czochralski Gold Medal in 2016, the 2018 Benjamin Franklin Medal in Electrical Engineering, LSA 10th Anniversary Outstanding Contribution Award, and many best paper awards. She is an elected life-Fellow of SWE, IEEE, and MRS. She is honored as a member of Academy of Europe 2021. Research.com gives her the best female scientist award for 2023.