

## Why a Career in Communications Engineering for a Woman?



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The representation of women and underrepresented minority communities have increased a great deal in Engineering and Computer Science. However, in many disciplines of Engineering, such as Communicating Engineering, it is vastly underrepresented. Far fewer women have been elected to IEEE Fellows than men when it should be around 50%. In addition, fewer women are in positions of power both in academic institutions (e.g., Engineering Deans) and in the C-Suite in corporations as well as on corporate boards. This is partly because of the number of women at say first level management are far fewer than men. Then you have to rise up the ladder from that pool and so women are already at a disadvantage. The solution to this problem is to engage women at a much earlier age – perhaps even in elementary school and focus on engineering education as a subject. Computer scientists are doing a good job in educating girls in computing. However, I believe that Communications Engineering is a much harder area to master than say computing especially with the level of mathematics that is needed to excel in Engineering. Therefore, we need to develop special courses for the girls. Then we need mentors to start promoting girls and women. For example, senior researchers and practitioners have to support women in getting promotions and awards such as IEEE Fellow and IEEE Comsoc Technical Committees' Technical Recognition Awards. We need to explain to the girls the benefit of having a high paying job. Finally, we must be there to listen to the girls and women to mentor, motivate, encourage and empower them. After all, the Women in Communications Engineering have the best role model: The most brilliant and beautiful Hedy Lamarr.

### Biography

Dr. Bhavani Thuraisingham is the Founders Chair Professor of Computer Science and the Executive Director of the Cyber Security Research and Education Institute at the University of Texas at Dallas. She is also a visiting Senior Research Fellow at Kings College, University of London and an elected Fellow of the ACM, IEEE, the AAAS, the NAI and the BCS. Her research interested are on integrating cyber security and artificial intelligence/data science for the past 34 years. She has received several awards including the IEEE CS 1997 Technical Achievement Award, ACM SIGSAC 2010 Outstanding Contributions Award, the IEEE Comsoc Communications and Information Security 2019 Technical Recognition Award, the IEEE CS Services Computing 2017 Research Innovation Award, the ACM CODASPY 2017 Lasting Research Award, the IEEE ISI 2010 Research Leadership Award, the ACM SACMAT 10 Year Test of Time Awards for 2018 and 2019 (for papers published in 2008 and 2009) and Dallas Business Journal 2019 Women in Technology Award. She co-chaired the 2016 Women in Cyber Security Conference (WiCyS), delivered the featured address at the 2018 Women in Data Science (WiDS) at Stanford University and co-founded the Women in Services Computing. Her 39-year career includes industry (Honeywell), federal research laboratory (MITRE), US government (NSF) and US Academia. Her work has resulted in 130+ journal articles, 300+ conference papers, 140+ keynote and featured addresses, six US patents, fifteen books as well as technology transfer of the research to commercial and operational systems. She received her PhD from the University of Wales, Swansea, UK, and the prestigious earned higher doctorate (D. Eng) from the University of Bristol, UK.