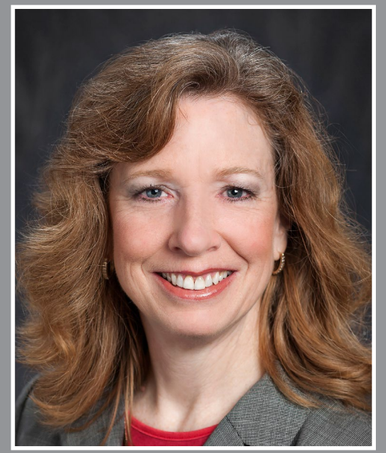
Karen G. Brack



Karen Brack is currently an Airborne Electronic Hardware (AEH) Engineer with Boeing Commercial Airplanes. As the AEH process focal for Boeing, she is responsible for policies and training related to electronic hardware design assurance and certification of avionics equipment on Boeing airplanes. She is a recognized expert in the application of the industry guidance standards including RTCA DO-254.

She has over 25 years of experience in the design and verification of Application Specific Integrated Circuits (ASICs), Field Programmable Gate Arrays (FPGAs) and digital hardware, and 14 years of experience in AEH certification following DO-254. Her design experience spans commercial, military and space avionics on a wide range of systems including flight controls, flight management, communication radios, navigation, satellite control, passenger cabin control and integrated modular avionics platforms. While at Honeywell, she was awarded patents for system architecture and microprocessor architecture aspects of a fly-by-wire flight control system.

As an active member of the international industry-wide DO-254 User's Group, Karen has contributed to papers on applying electronic hardware design assurance to emerging electronic component technology.

Her education includes a BS in Electrical Engineering from Louisiana State University and an MS in Electrical Engineering from the University of California at Irvine.

Reflections of Karen G. Brack

I am quite humbled and honored to be recognized as a distinguished alumnus of the LSU College of Engineering. When I reflect on how my educational and career paths unfolded over the years I realize how key opportunities and new challenges propel me forward, and how my passion for LSU and Electrical and Computer Engineering brings me back to LSU.

I have been an LSU fan since childhood as my parents are both LSU alumni, but it was not likely that I would attend LSU because my father's Air Force career took our family to many different cities, all outside of Louisiana. I so thoroughly enjoyed exploring my heritage while on campus and in Louisiana that I now find myself seeking every opportunity to stay connected to Louisiana people and come back to LSU.

A love of math, science, puzzles and fixing things inspired me to choose electrical engineering late in my freshman year at LSU. Digital logic, microprocessor design, hamming codes and circuits all seemed so fascinating! I was also encouraged by Dr. Ralph Kinney, my advisor, mentor and life-long friend, to dabble in automation of the administrative office with new personal computers. After three years at Shell Oil

Reflections of Karen G. Brack [continued]

Company automating data collection systems in research labs – mostly a software job, I attended graduate school and steered my career towards digital hardware design – mostly a hardware job.

The good fortune of timing put me in the leading wave of designing electronics using custom circuit chips, first for TRW Avionics Systems where I developed military avionics for the F22 jet fighter and for unmanned aerial vehicle payloads.

When my husband Bill's career moved us 10 years later, I dusted off my resume and found a new position with Honeywell Aerospace, this time in commercial avionics. My forte seemed to be in defining the structured processes for performing the design and testing, and I was able to devise a methodology for assurance of the electronics designs for the Boeing 787 Dreamliner flight control system. This project was one that I am most proud of and one that is most visible to my family and friends. They may not see the equipment on the airplane but they know I have a part in ensuring the safety of the system. Three years ago Boeing recruited me for a new position leading hardware design assurance for many airplane systems, and with the willingness of Bill to move and follow me this time, I accepted. As the custom circuit chips get denser and more complex I now work with colleagues at many companies around the world to find new ways to assure the safe operation of commercial avionics systems. And it all started in Dr. Kinney's digital logic class with the design of a coke machine change dispenser!

Most of my rewarding accomplishments began as terrifying moments wondering if I was up to the challenge. I have been inspired by and learned from many colleagues, managers and researchers; and many of them have been willing to follow the processes I devise. I have also been warmly supported by my parents, family and friends, even if I am the nerdy one in the group who often speaks in acronyms.

My husband Bill and I both appreciate how our university educations initiated our professional careers and adventures together. We are grateful to be able to give back to our respective alma maters so that other students may be afforded similar opportunities.

I want to thank the LSU College of Engineering for this recognition and thank the Division of Electrical and Computer Engineering for their continuing support. I am truly honored. My hope is that I can be a good ambassador for the college, the division and for LSU.