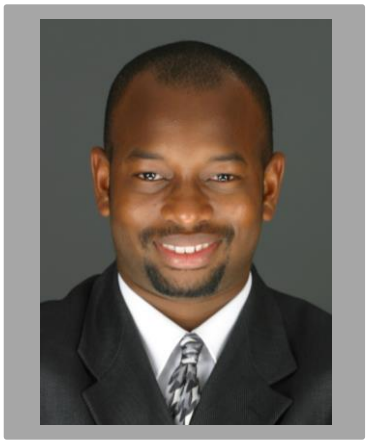
Biography

The Boeing Company
12701 Fair Lakes Circle M/C 7909-5701
Fairfax, VA 22033-4913
Nathan.R.Brooks@boeing.com



Nathan Raen Brooks, Ph.D.

Associate Technical Fellow, TLE
Electronic & Information Solutions (E&IS) - Argon ST
Defense, Space, & Security (BDS) – Autonomous Systems

Dr. Nathan Brooks is an engineer and scientist with The Boeing Company's wholly owned subsidiary, Argon ST. He is a Boeing Associate Technical Fellow, a Technical Lead Engineer, and a member of the Electronic and Information Solutions' Technical Directorate. Dr. Brooks currently contributes to the company's numerical computation capabilities with expertise in electromagnetics. Dr. Brooks performs 3D electromagnetic (EM) modeling and simulation of antenna and array systems on air, land, sea, and underwater platforms; antenna selection, characterization, and performance predictions for communication, jamming, and direction-finding antenna systems; co-site analysis of antenna systems on various platforms; and development and utilization of radio frequency (RF) propagation analysis tools including terrain based models. Dr. Brooks also develops advanced technology algorithms for solving various inverse problems related to challenging EM and RF applications such as navigation in urban or GPS denied areas, power based geo-location, and target detection in underground or unknown regions.

Dr. Brooks' work has been key to proposing, winning, and executing numerous advanced-capability program contracts from military, government, and commercial customers, including DARPA and IARPA—the Defense and Intelligence Advanced Research Projects Agencies. He has been principal investigator or technical lead on DARPA programs such as RadioMap, Comprehensive Interior Reconnaissance (CIR), and Robust Surface Navigation (RSN). He has been a leading member of site survey, system design, and installation teams providing antenna, direction finding, and RF expertise for multiple programs around the world such as Scorpio and Below HF. His modeling and simulation work has been used for design and performance analysis for various programs such as ACS, Banshee, EPX, ARL-E, Triton, ANZAC, and EMARSS. He also works closely with the Airborne group to improve methods of aircraft SIGINT system calibration.

Dr. Brooks has over 15 years of experience in electromagnetics and numerical optimization including graduate and postdoctoral research at the National High Magnetic Field Laboratory (NHMFL), the Center for Advanced Power Systems (CAPS), and the European Organization for Nuclear Research (CERN). Dr. Brooks has published or presented over 30 journal articles, reports, lectures, and conference papers related to his doctoral expertise in inverse methodologies for solving electromagnetic problems and advanced power systems.

Dr. Brooks received his Doctorate in Electrical Engineering from Florida A&M University at the FAMU-FSU College of Engineering in Tallahassee, Florida. He received fellowships from Boeing, the National Science Foundation, and NASA. He has received multiple awards at the Black Engineer of the Year Awards (BEYA) conference over the years and is the 2019 National Society of Black Engineers (NSBE) Golden Torch Lifetime Achievement in Industry Award winner.

Born in Louisiana, Dr. Brooks grew up and attended high school in Missouri City, Texas with his now wife Angela. He has been married to Angela since their freshman year at Florida A&M University where they began raising a family of three sons and both graduated with degrees in electrical engineering. Dr. Brooks was the first doctoral graduate in electrical engineering from the esteemed historically black university.