



Charles “CJ” Johnson-Bey, Ph.D.

Senior Vice President, Booz Allen Hamilton

Dr. Johnson-Bey has experience leading global innovation to reflect evolving markets and technology dynamics. He uniquely leverages the intersection of technology, strategy, and business to create value, lead change, and drive execution. His expertise has spanned academia as well as the defense and commercial industries. He has over 25 years of extensive engineering experience in the translation of emerging technologies from ideas to implementation in the areas of Electromagnetic Spectrum Operations, Information Warfare, Cyber Resilience, Digital Signal Processing, and Prototyping. Dr. Johnson-Bey is member of the 2024 Class of the National Academy of Engineering (NAE). The NAE is a part of the National Academies of Sciences, Engineering, and Medicine. Its mission is to advance the welfare and prosperity of the nation by providing independent advice on matters involving engineering and technology.

As Senior Vice President for Booz Allen’s Global Defense Sector (GDS), he leads Engineering & Technology that supports the DoD’s Science & Technology Labs’ Mission. The focus is establishing a comprehensive roadmap that strategically positions GDS to rapidly drive and reliably identify the knowledge base and technology needed to propel the development of emerging capabilities. In addition to his work at Booz Allen, he is also a Co-Principal Investigator of the National Science Foundation-funded Engineering Research Visioning Alliance ([ERVA](#)). ERVA identifies and develops bold and transformative new engineering research directions, directly supporting the nation’s ability to compete in a rapidly changing global economy.

Before joining Booz Allen, he worked for Lockheed Martin Corporation with increasing responsibility in advanced technology and strategy. As their Director of Cyber Innovations, he galvanized Lockheed’s cyber resources across the ~\$15B Rotary Mission Systems business. As the Open Innovation Program Manager, he led the multimillion-dollar technology portfolio that supported nine of Lockheed’s Focus Programs with a projected \$20B in Total Addressable Market. His responsibilities included strategic funding and coordination of collaborative research and development activities with Sandia National Laboratory, Oak Ridge National Laboratory, GE Global Research Center, and Microsoft Research. He was also Lockheed’s Baltimore Engineering Site Lead, which included the Mechanical and Electrical Prototyping Labs and the Systems, Electrical, Mechanical, and Software Engineering Departments. Prior to Lockheed, he worked for Motorola Corporate Research Labs, Corning Incorporated Science & Technology Division, and was an Electrical Engineering professor at Morgan State University.

He serves on the Advisory Board of the Directed Energy Center at the University of New Mexico. The Whiting School of Engineering Advisory Board at Johns Hopkins University and the Electrical and Computer Engineering Advisory Board at the University of Delaware. He is also on the Cybersecurity Institute Advisory Board for the Community College of Baltimore County.

Dr. Johnson-Bey received the 2018 Black Engineer of the Year Award for Career Achievement-Industry. He graduated from the Baltimore Polytechnic Institute, the premier engineering high school in Maryland. Dr. Johnson-Bey received a BS degree in Electrical & Computer Engineering from Johns Hopkins University and received an MS and Ph.D. in Electrical Engineering from the University of Delaware. He lives in Maryland with his wife of over 30 years. They have 3 grown children.

CORE COMPETENCIES INCLUDE

TECHNICAL LEADERSHIP ☐ TECHNOLOGY INNOVATION ☐ STRATEGIC PLANNING ☐
TECHNOLOGY PORTFOLIO MANAGEMENT ☐ ELECTRICAL ENGINEERING ☐ STEM EDUCATION

Career Highlights	Major Outcomes
Strategic Technologist	- Managed a multi-million-dollar technology portfolio that supported nine of Lockheed Martin's Focus Programs with a projected \$20B in Total Addressable Market - Organized the Envision Innovation Symposium in Abu Dhabi, UAE - Awarded patent on control system that is used in multiple Lockheed Martin platforms
Innovative Collaborator	- Co-PI NSF funded Engineering Research Visioning Alliance (ERVA) - Funded collaborative research and innovation activities with: - Sandia National Laboratories - Oak Ridge National Laboratory - Lawrence Livermore Labs - GE Global Research Center - Microsoft Research - Co-Lead: Industrial Research Institute Research-on-Research Business Model Innovation team
Subject Matter Expert: Speaking Engagements	2024 American Society of Engineering Education Mindset Workshop 2023 TechConnect World Innovation Expo 2021 Electromagnetic Spectrum Superiority and Modernization Panel, Tysons, VA 2019 Cyber Workforce guest on The Kojo Nnamdi Show, National Public Radio, WAMU 2019 Cybersecurity Lecture Series speaker at Georgia Tech 2018 The Science of Black Panther Panel Guest at AwesomeCon, Washington, DC 2014 American Leaders Open Innovation Conference 2013 University Industry Demonstration Partnership Webinar Series

Current Clearance: TS/SCI

Education:

Professional Certificate: Chief Technology Officer, MIT, expected Winter 2024

Ph.D. in Electrical Engineering, University of Delaware, Fall 1994
Concentrated in Algorithms & Architectures for Image Processing Systems

B.S. in Electrical and Computer Engineering, Johns Hopkins University, 1989*
**Graduated in three (3) years 1986-1989*

High School Diploma, Engineering Concentration, Baltimore Polytechnic Inst., 1984

Patents:

C. Johnson-Bey, et.al, "Intelligent System Manager System and Method"
(US Patent #8260736)

Engineering Skills:

- Taught undergraduate and graduate level courses in Advanced Digital Design, Computer Architecture and Design, and VLSI
- Digital Design and Modeling & Simulation of hardware systems, C, VHDL
- Digital Signal Processing (Image Processing, FFTs, FIR Filters, etc.).
- Mathematics (Algebra, Geometry, Linear Algebra, etc.), MATLAB

Pedagogical Interests:

- Developing a unique educational culture that maximizes P-20 student learning via participation in applied, real world engineering demonstrations and practicing creative, cognitive, and critical thinking skills.

Experience:

National Academy of Engineering

(February 2024 - present)

Class of 2024 Washington, DC

The National Academy of Engineering is part of the National Academies of Sciences, Engineering, and Medicine. It is a private, independent, nonprofit institution that provides engineering leadership in service to the nation. The mission of the National Academy of Engineering is to advance the welfare and prosperity of the nation by providing independent advice on matters involving engineering and technology, and by promoting a vibrant engineering profession and public appreciation of engineering.

Booz Allen Hamilton

(February 2020 - present)

Senior Vice President Washington, DC

Chief Translation Office and Full Profit & Loss responsibilities for ~\$420M NAVWAR Account within Global Defense Sector's Navy-Marine Corps (NMC) business. It encompasses over 1000 employees located in San Diego CA, Washington DC, and Charleston SC. Supports both classified and unclassified missions involving Networks, Electromagnetic Spectrum Operations, and Mission strategies. Funded R&D in secure edge, electronic warfare, and optical communication technologies for use in Digital Battlespace and Information Warfare.

Engineering Research Visioning Alliance (ERVA)

(April 2021 - present)

Co-Principal Investigator Baltimore, MD

Co-Principal Investigator of the National Science Foundation-funded Engineering Research Visioning Alliance ([ERVA](#)). ERVA is a five-year funded initiative that identifies and develops bold and transformative new engineering research directions and catalyzes the nation's engineering community's pursuit of innovative, high-impact research that benefits society. Engineering Research topics have included Unhackable Infrastructure, Water, Manufacturing, Artificial Intelligence, Quantum Computing, Wireless Comms, and Women's Healthcare.

Lockheed Martin Corporation

(November 2003 – January 2020)

Rotary Mission Systems (RMS) Annapolis Junction, MD (Aug 2016- January 2020)

Director, Engineering & Technology, Cyber Innovations.

Director of Engineering & Technology's Cyber Innovations Center of Excellence. Led a global multi-disciplinary engineering organization comprised of skillsets unique to this domain, including cyber data science, analytics, and embedded systems. Responsible for the day-to-day people, processes, and tools across the organization. Developed innovative and affordable strategies to advance the Resilient Cyber capabilities for both domestic and international customers and maximize efforts of the significant subcontractor community.

Mission Systems and Training (MST) Baltimore, MD (Jan 2013- Aug 2016)

Senior Manager and Baltimore Engineering Site Lead.

Senior Manager and Baltimore Site Lead for Technical Operations in the Missions Systems and Training (MST) organization of Lockheed Martin Corporation. In this capacity, he managed multiple engineering disciplines including Systems, Electrical, Mechanical, Software as well as Electrical and Mechanical Prototyping Laboratories. He also led technical teams and managed both strategic and tactical applications for the organization.

Corporate Engineering & Technology

Technology & Innovation Bethesda, MD (Jan 2011- Jan 2013)

Program Manager, Open Innovation/Shared Vision.

Managed a multi-million-dollar technology portfolio that supported nine of Lockheed Martin's Focus Programs with a projected \$20B in Total Addressable Market. Responsible for identifying and implementing means to leverage innovative ideas and expertise at non-academic organizations outside of Lockheed Martin Corporation. His responsibilities include coordinating the corporation's research activities with National Laboratories, Fortune 50, and other world class research centers.

Lockheed Martin (LM) Mission Systems & Sensors (MS2)

Baltimore, MD (Nov 2003- Dec 2010)

The following nine (9) descriptions show increasing responsibilities in advanced technology and strategy within the MS2 Business Unit of Lockheed Martin. Many of the functions were concurrent.

MS2 Advanced Technology Principal Technology Strategist.

Responsible for technology roadmaps, research and product development encompassing multiple engineering disciplines, such as naval, biomedical, electrical, and composite technology. He ensured systematic and meaningful demonstration of emerging technologies and integration with Lockheed Martin's long range and strategic plans.

Small Business Innovative Research (SBIR) Corporate Working Group

Member of Lockheed Martin Corporate SBIR team. Coordinated SBIR activities across the corporation. Utilized MS2 Engineering Fellows and other subject matter experts to assist with linking small business technologies with Lockheed's Technology Fulfillment Plans and Contract Research & Development efforts. Worked closely with Director of Navy SBIR Program and Navy Program Offices. Invited speaker at 2007 Navy SBIR/STTR Transition Assistance Program.

MS2 Advanced Technology Weapons, Launchers, & Platforms (WLP), Sr. Mgr.

Led the WLP organization with responsibilities that included working with Line of Business (LOB) & Center of Excellence leads, LOB Chief Engineers, LOB program managers, and WLP Tech Ops subject matter experts to drive technology roadmaps strategies, as well as identify, qualify, pursue and win WLP strategic Research and Development. In addition, led MS2 Adv Technology initiatives, which included

university research and small business engagement.

MS2 Advanced Technology Strategic Technology Initiatives, Sr. Mgr.

Responsible for leading cross Line of Business development of core MS2 technology as well as MS2 AT initiatives. Integral part of the core team that designed and implemented an unprecedented restructuring of the entire MS2 Technical Operations organization into Centers of Excellence. Also, responsible for leveraging capabilities of universities and small businesses for technology development and insertion.

Lockheed - General Electric (GE) Global Research Center Shared Vision Lead

Develop an integrated hybrid power & propulsion design concept that is optimized for the Littoral Combat Ship off-board mission packages. Performed benefits analysis against diesel/mechanical propulsion systems across expected operating modes & mission scenarios. Successfully led a team in the development of the power controls, electronics, and balance of plant control for regenerative fuel cell power systems for land, sea, high altitude applications.

Advanced Programs Research and Development Manager

Technology Portfolio Manager of all the Littoral Combat Ship (LCS) and the Ship Systems and Independent and Contract Research & Development Projects as well as Small Business Innovative Research (SBIR) activities. Managed projects ranging from Automation & Controls to Unmanned Surface Vessels. Responsible for research and product development, technical and financial progress, project staffing, contracts, Intellectual Property, etc. Held quarterly reviews with management and stakeholders. Ensured systematic and meaningful demonstration of emerging technologies and integration with business' Long Range and Strategic plans. Led the development of Technology Fulfillment Plan and Technology Investment Plan.

Capture Manager for Integrated Platform Management System for India

Responsible for Capture of Integrated Plant Management System (IPMS) business to Indian Navy. Worked with Indian Navy and indigenous company Larsen & Toubro to procure IPMS business for Lockheed.

Systems Engineering First Line Manager, Systems Synthesis Group

Managed over 30 engineers in the areas of Systems Architecting, Systems Modeling & Simulation, and Small Business Innovative Research. Duties included system integration, verification and validation, cost and risk, and supportability and effectiveness analyses. Ensured analyses were performed at all levels of total system product to include concept, design, fabrication, test, installation, etc. Managed the functional analysis, timeline analysis, detail trade studies, requirements allocation and interface definition studies. Responsible for coordinating employee recruitment, selection and training, performance assessment, work assignments, salary, and recognition/disciplinary actions.

Systems Engineer Systems Synthesis Group

Investigated state of the art Model Driven Architecture techniques that decreased development & testing costs by coupling system requirements to system architectures throughout the design cycle. Continued growth of weapon system and combat system requirements provided an opportunity to design system architectures more capable of exploiting new technologies.

Morgan State University

Baltimore, MD (Aug. 1998 – Aug. 2005)

Assistant Professor, Department of Electrical and Computer Engineering

Core research dealt with analysis and design of Analog-to-Digital Converters and Developing a System Level Synthesis framework that will allow for mapping system level algorithms and requirements to a set of architectures and exploring the architecture trade-offs within a design solution space to arrive at an optimal implementation.

Corning Incorporated

Corning, New York (Aug. 1997 – Aug. 1998)

Senior Project Engineer, Science and Technology Division

Hardware and Electronics team leader for developing three optical networking systems. These systems were different architectural prototypes for Wavelength Add/Drop Multiplexers (WADMs). This work was strategic and vital to placing Corning, Inc. in the business of providing value-added optical networking systems to its customers.

Motorola Incorporated

Chicago, Illinois (Aug. 1994 – Aug. 1997)

Staff Engineer, Chicago Corporate Research and Development

System Modeling and Simulation Team: Responsibilities included ensuring all algorithmic and architectural requirements are met in a Motorola Multimedia chip set. Duties included developing suites of intelligent test vectors to validate the sub-system's adherence to the H.261, MPEG, and JPEG video and image compression standards and to identify key parameters for characterizing the system as well as determining overall system performance

Motorola Lead Research Engineer, Cellular Infrastructure Group

Technology Shelf Research Team: Responsibilities included technology road mapping and researching key new algorithmic technology in the area of digital signal processing and developing the proof of concept. Further responsibilities included rapid prototyping new cellular base station concepts, features, and architectures for IS95 CDMA systems.

Selected Funded Projects (while at Morgan State University):

2002-2005	NASA GSFC , Design of High-Speed Comparator Architectures for RF ADCs, October. 2002-September. 2005, \$300,000 .
2001-2003	National Security Agency , Design of a High-Speed Logic Engine for use in ATM Networks, May 2001-September 2003, \$350,000 .
2001-2002	NASA GSFC , The Study of Architectures for SiGe based RF Analog-to-Digital Converters, April. 2001-Dec. 2002, \$40,000 .
2001	MSU-NASA , The Study of Analog-to-Digital Converters, Feb. 2001-Aug. 2001, \$40,000 .
2000-2001	Lockheed Martin NESS , Model Based/Executable Requirements Study, Sept. 2000-Nov. 2001, \$100,000 .
2000-2001	National Science Foundation , Minority Research Planning Grant Sept. 2000-Jan. 2001, \$18,000 .
1999-2000	Boeing Satellite Systems , Converter Characterization Project, May 1999-Dec. 2000, \$150,000 .
1998-1999	Corning Incorporated , Undergraduate Research, \$25,000 .

Selected Papers/Presentations:

C. Johnson-Bey, E. Udofa, D. Girma, V. Parker, “A Proposal for an internationally collaborative STEM education program for high school students in the developed and developing world: Existing state of affairs and facts” IEEE International Conference in MOOC and Technology Education, 2013

C. Johnson-Bey, “A Sandia-Lockheed Partnership’s Goal is to Improve Aeronautics”, Innovation Magazine: America’s Journal of Technology Commercialization, August/September 2012, Vol 10, No 4.

C. Johnson-Bey and L. Kolankiewicz, “Driving Open Architecture with Control System Reference Architectures”, Proceedings of the ASNE Automation & Controls Symposium 2010.

C. Johnson-Bey, “Securing IRAD/CRAD”, presented at the Lockheed Martin Fellows Conference, Atlanta, GA 2010.

C. Johnson-Bey and D. Jordan, “Compact Fuel Reforming for Compact Undersea Vehicles”, presented at the MS2 Energy Conference, 2008.

C. Johnson-Bey and M. Krok, “Integrated Power”, presented at Lockheed Martin Electrical Energy Technology Symposium, Denver, CO 2007.

L. Mickens and C. Johnson-Bey, “Design Methodology for Optimal Hardware Implementation of Wavelet Transform Domain Algorithms”, SPIE Defense and Security Symposium 2005.

O. Nare, L. Mickens, C. Johnson-Bey, “A Multi-Objective System Level Synthesis Approach to Reconfigurable Analog Technology”, Proceedings of the Engineering of Reconfigurable Systems and Algorithms (ERSA), Las Vegas, Nevada 2004.

J. Plante, H. Shaw, L. Mickens, and C. Johnson-Bey, “Overview of Field Programmable Analog Arrays as Enabling Technology for Evolvable Hardware for High Reliability Systems”, IEEE NASA/DoD Conference on Evolvable Hardware, Chicago, Illinois 2003.

W. Thompson, W. Hall, J. Piepmeier, C. Johnson-Bey, “Low Power Radio-Frequency SiGe Analog-to-Digital Converter”, Proceedings of the IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Toulouse, France 2003.

Johnson-Bey, C. and Mack, P., "Computer Engineering: Issues, Trends, and Curricula" 1999 ASEE Annual Conference. Charlotte, NC, June 20-23, 1999

A. Rottinghaus, S. Hilton, D. Bright, and C. Johnson-Bey, “On the use of High-Level Abstraction in Modeling for ASIC Top Level Functional Validation”, Proceedings of the Motorola Corp. Engineering Council 1997 Simulation and Modeling 10X Cycle Time Reduction Symposium, Motorola Inc, Chicago, IL, June 1997

R. Knize and Charles T. Johnson-Bey “Characterizing Digital-to-Analog Converters in Finite Pattern Depth Systems” Proceedings of the Motorola Corporate Engineering Council 1997 Simulation and Modeling 10X Cycle Time Reduction Symposium, Motorola Incorporated, Chicago, Illinois, June 1997

Advisement:

Undergraduate

1999-2005 Undergraduate Research Advisor for avg. 10 students/year

2001-2005 Faculty Advisor, IEEE Student Chapter, Morgan State University

Master of Electrical Engineering

D. Capers (2003)	T. Carson (2004)	C. Thorpe (2005)
W. Hall (2003)	B. Latimer (2004)	M. Myster (2005)
C. Vail (2003)	L. Mickens (2004)	B. Valentine (2005)

Doctoral Dissertation

Dr. Otsebele Nare (Morgan State University 2005-Primary Advisor)

Currently Electrical Engineering Prof @ Hampton University)

Dr. Lisa Mickens (Morgan State University 2008 – Primary Advisor)

Currently @ National Security Agency)

Dr. Brian Valentine (GA Tech University 2009 – Advisor)

Currently Research Engineer @ NVIDIA)

Courses Taught

EEGR 105	Introduction to Electrical Engineering
EEGR 203	Circuits Lab
EEGR 211	Introduction to Digital Logic
EEGR 560	Computer Networks
EEGR 562	Computer Architecture, Networks and Operating Systems
EEGR 570	Advanced Digital System Design
EEGR 660	Computer Architecture and Design
EEGR 670	DSP VLSI Design
EEGR 760	Special Topics in Computer Engineering: System Level Synthesis

Technical Societies, Honors and Awards:

Senior Member Institute of Electrical and Electronics Engineers (IEEE)
Tau Beta Pi - Engineering Honor Society
Eta Kappa Nu - Electrical Engineering Honor Society
Golden Key National Honor Society – Honorary Member

Selected Community Service:

2011-2013	Host Baltimore Regional Seaperch (underwater robotics) Competition
2009-2012	Assistant Lacrosse coach Perry Hall & Churchville Recreation Centers
2005-2007	Judge, First Lego League
2006	Assistant Coach, Perry Hall 8-10 Football
2004	Invited Speaker, Career Success Through Exposure and Preparation, Inc., program for high school students interested in engineering and public health.
2004	Assistant Coach, Cardinals Wrestling Club, Baltimore, MD
2002-2004	Technical Curriculum Development, Appomattox Regional Governor's School for the Arts and Technology, Petersburg, VA
2002-2004	Director, ARCADE Summer Institute for Children (ASIC) Camp
2001-2003	President, Engineering Advisory Council, Baltimore Polytechnic Institute
2001-2003	Assistant Coach, Woodlawn Wolfpack Wrestling, Woodlawn, MD