BDPA2020 • Womens History Month

Rear Admiral Grace Hopper

Programming in COBOL
Mainframe Computers
‘HIDDEN FIGURE$’

March 2020
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For 40 years, BDPA has enabled the upward mobility of African Americans and other minorities in the Information Technology (IT) and STEM fields. Through its 40+ local community chapters in major cities across the United States, BDPA has been at the forefront of promoting the minority agenda within the IT profession since 1975. BDPA has been a leader and pioneer in technology and STEM training for IT professionals and High School students since 1986.

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Great Moments in TECH, Her Story: Rear Admiral Grace Brewster Murray Hopper, U.S. Navy

WASHINGTON, D.C. — Grace Murray Hopper was an American computer scientist and United States Navy rear admiral. A programming pioneer in the field, she was one of the first programmers of the Harvard Mark I computer, and invented the first compiler for a computer programming language. She popularized the idea of machine-independent programming languages, which led to the development of COBOL, one of the first modern programming languages.

A conference known as the Conference on Data Systems Languages (CODASYL) in 1959 brought together computer experts from industry and government. Admiral Hopper served as the technical consultant to the committee, and many of her former employees served on the short-term committee that defined the new language COBOL (an acronym for COmmon Business-Oriented Language). The new language extended Hopper’s FLOW-MATIC language with some ideas from the IBM equivalent, COMTRAN. Hopper’s belief that programs should be written in a language that was close to English rather than in machine code or assembly languages, was captured in the new business language, and COBOL went on to be the most ubiquitous business language to date. COBOL and mainframe computers are still used today.

Admiral Hopper is credited with popularizing the term “debugging” for fixing computer glitches (inspired by an actual moth she removed from a computer). Owing to the breadth of her accomplishments and her naval rank, she is sometimes referred to as “Amazing Grace”. The U.S. Navy destroyer USS Hopper (DDG-70) is named for her, as was the Cray XE6 “Hopper” supercomputer at NERSC. Today, the National Energy Research Scientific Computing Center (NERSC) is the primary scientific computing facility for the Office of Science in the U.S. Department of Energy.
Unsung Heroines • HIDDEN FIGURES

Commemorating Women’s History Month
WASHINGTON — The National Science Foundation (NSF) Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) program addresses the need for a high quality STEM workforce in STEM disciplines supported by the program and for the increased success of low-income academically talented students with demonstrated financial need who are pursuing associate, baccalaureate, or graduate degrees in science, technology, engineering, and mathematics (STEM).

The NSF S-STEM program particularly encourages proposals from 2-year institutions, Minority Serving Institutions (MSIs), Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), tribal colleges and universities, and urban and rural public institutions.

Full proposals are due from schools before: March 25, 2020

S-STEM Eligible Degree Programs

- Associate of Arts, Associate of Science, Associate of Applied Science; Bachelor of Arts, Bachelor of Science; Bachelor of Applied Science; Bachelor of Arts; Master of Science; and Doctoral

S-STEM Eligible Disciplines

- Biological sciences (except medicine and other clinical fields); Physical sciences (including physics, chemistry, astronomy, and materials science); Mathematical sciences; Computer and information sciences; Geosciences; Engineering; and technology fields associated with above listed disciplines (e.g. biotechnology, chemical technology, engineering technology, information technology). Programs in business schools that lead to Bachelor of Arts or Science in Business Administration degrees (BABA/BSBA) are not eligible for S-STEM funding. Proposers, schools, and BDPA Student Chapters are strongly encouraged to contact NSF Program Officers before submitting proposals if they have questions concerning requirements or degree eligibility.

— National Science Foundation
Vivian C. Wilson retired as a Data Center Manager from Ameritech after 33 years of service. Twenty of those years were in Computer Operations, Security, and Data Systems for Northeast Ohio. Ms. Wilson served as the Vice President of National BDPA’s third U.S. chartered chapter, BDPA Cleveland. Ms. Wilson became the first National BDPA President elected to office without serving as a Chapter President and the first woman chief executive of NBDPA. Ms. Wilson served as NBDPA’s President from 1989 to 1992 and selected in 1990 as Cleveland’s Professional Woman of the Year.
Margaret “Midge” Johnson is an experienced Information Technology professional with over 50 years of professional experience in the information technology industry, 42 years of which were specialized. She is Founder and current President of a volunteer based charitable NPO, Rainbow Production Ministries, that has been in existence since 2000. Ms. Johnson was the first Executive Director for National BDPA. She also was the Washington, D.C. BDPA Chapter President for approximately 3 years where she secured the IRS 501 (c)(3) Non-Profit status for the local chapter. She secured financial support for the first Washington, D.C High School Computer Competition (HSCC) team in 1986. In 2013, Ms. Johnson retired from GEICO as a Senior Systems Analyst and Lead for IBU Claims Release Management and received her Lifetime Membership during BDPA-DC’s 35th Anniversary.
Commemorating Women’s History Month

Kathryn Finney is one of the most influential women in tech and is recipient of numerous awards, including the White House Champion of Change and Echoing Green Fellowship. Ms. Finney, a second-generation BDPA alumna, is the Founder and CEO of digitalundivided and daughter of the late Robert Finney, Past President of National BDPA’s Twin Cities Chapter in Minnesota. Ms. Finney also was a Student Member of BDPA's Twin Cities’ team.
I was accepted into all five schools that I applied to with full scholarships: University of Maryland (College Park), Spelman College, Columbia University, Duke University, and Stanford University. I have given this testimonial to just give a small example of how BDPA is impacting the community on a large scale.

Stephanie Lampkin, CEO Blendoor
Stanford University Alumna
MBA from MIT's Sloan School of Management
Commemorating Women’s History Month

Admiral Michelle J. Howard, U.S. Navy (Retired) joined IBM’s Board of Directors on March 1, 2019. Admiral Howard served as the 38th Vice Chief of Naval Operations and is our nation’s first female four-star admiral to command operational forces. Throughout her distinguished naval career, Admiral Howard was a staunch proponent of STEM and Cyber programs for our youth. She attended BDPA’s 35th Anniversary event in Washington with Midshipmen and students.
Rear Admiral Lillian E. Fishburne is the first African American female to hold the rank of Rear Admiral in the United States Navy. Admiral Fishburne is a Member of the National Naval Officers Association and a very strong proponent of STEM education and programs. Admiral Fishburne is a Lincoln University alumna and received her Master of Science degree in Telecommunications Systems Management from the Naval Postgraduate School, Monterey, California. Her final active assignment was Director, Information Transfer Division for what we know today as SPAWAR.
Commemorating Women’s History Month

Raven Stevenson was a senior on BDPA’s Greater Columbia, SC High School Coding Competition (HSCC) team when she won a full 4-year Naval ROTC scholarship to Duke University in 2009. In 2013, she received her commission in the U.S. Navy. Ensign Stevenson was National BDPA’s first HSCC Alumna to receive a commission in the U.S. Armed Services. Already promoted twice, Lieutenant Stevenson is an Assistant Professor of Naval Science and Surface Warfare Advisor.
Brigadier General Lorna Mahlock is the Director, Command, Control, Communications and Computers (C4) and the Deputy Department of the Navy Chief Information Officer (CIO) of the U.S. Marine Corps.

Prior to her new assignment, she served as Deputy Director, Headquarters Marine Corps Plans, Policy and Operations and Commanding Officer, Marine Air Control Group 18, in Okinawa, Japan.

Born in Kingston, Jamaica, General Mahlock immigrated to Brooklyn, New York and enlisted in the Marine Corps. She was commissioned as an Officer in December 1991. In 2018, she became the first black woman to don the rank of Brigadier General in the U.S. Marine Corps.
Commemorating Women’s History Month

U.S. Marine Corps Captain Vernice “Fly Girl” Armour became the first African-American female naval aviator in the Marine Corps and the first African American female combat pilot in the U.S. Armed Forces. She served two tours piloting an AH-1W Super Cobra in Iraq. Today, this decorated veteran serves as a great motivational speaker, consultant, publisher, and coach. Her grandfather was a Montford Point Marine and her father served as a Marine in Vietnam.

Pick up and read her book: Zero to BREAKTHROUGH
Marines from the National Naval Officers Association (NNOA) assigned to the Marine Corps Systems Command in Quantico, VA served as judges during NBDPA’s Regional High School Computer Competition (HSCC) and coding events at Bowie State University in June of 2008. Students from Hartford, CT (above), Baltimore, New York, Philadelphia, and Washington, DC vie for scholarships and internships during annual BDPACON events.
Commemorating Women’s History Month

_Lucinda Cunningham_ is recognized as the first African American female to be promoted to the rank of Captain (O-6) in the United States Coast Guard.

In 2014, the United States Coast Guard was National BDPA’s Washington, D.C. Chapter Federal Sponsor of the Year. While assigned to U.S. Coast Guard Cyber Command, CAPT Cunningham participated in BDPA’s outreach and community technology award programs.
Commemorating Women’s History Month

"My first goal in buying this radio station, was not to make money. My goal was for it to make the Washington community a better informed and enlightened Black Community."

— Cathy Hughes

Had it not been for the support of the Howard University School of Communications in her earlier professional years, Dr. Cathy Hughes said she wouldn’t be where she is today.

Dr. Hughes is founder and chairperson of Urban One, the largest Black-owned American media company with holdings in radio, cable, TV, and digital media. Founded as Radio One, the company went public in 1999, making her the first African-American woman to head a U.S. publicly traded corporation. Her multi-billion dollar company owns and operates 56 radio stations in 16 U.S. markets.
Commemorating Women’s History Month

Traci Wade is Oracle’s Director of Diversity and Inclusion. Ms. Wade was honored and received the following awards: Bridging the Gap Award in 2015 by San Francisco African-American Chamber of Commerce, Corporate Champion of the Year in 2012 by Black Data Processing Associates (BDPA), Rising Star at the Women of Color STEM Conference in 2013 and winner of BDPA’s Outstanding Corporate Contributor in 2013. BDPA and Oracle have been mission partners since their days at Sun Microsystems.
Dr. Margaret Wood is the Founder and CEO of WOOD Consulting Services, Inc. Dr. Wood launched her career as an Intern with the National Security Agency (NSA). Today, her firm manages a multi-million dollar prime contract for the Federal Aviation Administration (FAA) and multi-million dollar portfolios for Defense and the Intelligence Community. Dr. Wood is an alumna of the University of Maryland Eastern Shore and recipient of BDPA-DC’s Entrepreneur of the Year Award in 2017.
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LEARN HOW TO FIND, TRAIN AND CULTIVATE A GREAT POOL OF UNTAPPED TALENT.
Stage Coach Mary

Born Mary Fields circa 1832 in Tennessee, Ms. Fields was born into slavery. Before email, electronic funds transfers, and an evolving telegraph network, American folklore and metaphorical praise honored the first African American female star-route mail carrier in the United States.

In 1890’s Montana, mail thieves and bandits did not stand a chance against Stage Coach Mary! This hard-drinking, quick-shooting, mail carrier sported two guns with a very bad attitude toward those who attempted to disrupt her “last mile” from her train station to her local post offices.
Bessie Coleman wanted to fly, and she wouldn’t take “No” for an answer. As the first African American woman with an international pilot’s license, she proved her skills as a stunt pilot. Ms. Coleman also was the first Native American female pilot. Known for performing flying tricks, Coleman’s nicknames were; “Brave Bessie”, “Queen Bess” and “The Only Race Aviatrix in the World.” Her goal was to encourage women and African Americans to reach their dreams.
FIRE IN MY SOUL
THE LIFE OF ELEANOR HOLMES NORTON

"An engaging narrative of the life and times of a remarkable individual."
—The Washington Post

U.S. Congresswoman Eleanor Holmes Norton is known in Washington as the "Warrior on the Hill." The book Fire in My Soul shares a compelling biography of one of our nation's greatest political pioneers in American history. Today, Dr. Norton's new post as Ranking Member of the Transportation and Infrastructure (T&I) Committee's Highways and Transit Subcommittee gives her a front seat at the table for T&I reauthorization bills.
Commemorating Women’s History Month

Dorothy Vaughan  Mary Jackson  Katherine Johnson

Photographs: NASA and Smithsonian Magazine

Hidden Human Computers

Often overlooked in histories of technology, and even in histories of human computing, the women of NASA nevertheless played a vital role in research at NASA Langley, back when our nation’s “computers” wore skirts. Lest we forget, America’s mathematically talented women, who helped power NASA and 20th century computing technologies.
Commemorating Women’s History Month

Dr. Mae Jemison is an American physician and first Black woman in space. Dr. Jemison was a keynote speaker during event opening and Industry welcome ceremonies at the 2004 National BDPA Technology Conference hosted by BDPA’s Dallas, Texas Chapter.

As an engineer, physician, and astronaut, Dr. Jemison was assigned to the STS-47 space mission in 1992.
Valerie Thomas is an African-American scientist and inventor. In 1997, Valerie Thomas began research on how light and concave mirrors could be used.

It was this research which led to her invention of the illusion transmitter which made it possible to project 3-D images onto television screens. Ms. Thomas was also heavily involved in the Landsat Project which were the first satellites to send images back to earth from space.
Barbara Robinson is an experienced entrepreneur in private sector, local, state, and federal government. Having acquired knowledge to understand the needs of several industries, she served as one of Maryland’s State Senators. Her latest bill (SB 615) established a Cyber Warrior Diversity Program with Maryland HBCUs and Baltimore City Community College (BCCC), with $2.2 million allocated to launch these new programs and $11 million for Senator Robinson’s sustainment requests.
Maurita Coley Flippin, Esq., MMTC’s President and CEO, is a lawyer, social impact leader, and former media executive with extensive experience in media, telecom, and internet law and policy, and business operations. Immediately, prior to MMTC she served as the chief executive officer of Capital Area Asset Builders, an industry leading nonprofit in community economic development and asset building in the Washington, DC metropolitan area. Previously, she served on executive management teams at BET Holdings, Inc. Ms. Flippin is 2018’s President’s Award winner for Community Service from National BDPA’s Washington, D.C. Chapter.
Natalie Madeira Cofield is Founder of Walker’s Legacy, an organization she created to inspire, equip, and empower professional women with enterprising goals. Ms. Cofield is an honors Information Systems graduate from the Howard University School of Business. Cofield has spoken for global technology companies which include BDPA mission partners such as Dell, Facebook, Google and IBM. BDPA Members and women-owned business executives (above) attended Walker’s Legacy CBCF Reception for 2015 in Washington, D.C. at Google.
Dr. LaVerne H. Council is the national managing principal for Enterprise Technology Strategy and Innovation, responsible for the planning, growth and execution of Grant Thornton’s U.S. Advisory business. She recently served as Assistant Secretary for the Office of Information and Technology and chief information officer (CIO) for the U.S. Department of Veterans Affairs.

Confirmed by the 114th Congress, Dr. Council became the first female CIO of a Cabinet-level federal agency in June of 2015.

Dr. Council is a “BDPA Champion.” With senior executive IT roles at Dell and becoming the first global CIO for Johnson & Johnson, she supported local chapters and National BDPA’s IT Showcase.
Dr. Kyla McMullen is an Assistant Professor and Director of the University of Florida’s SoundPad Lab in the University’s Computer and Information Science and Engineering (CISE) Department.

In 2013, Dr. McMullen (above) with NBDPA received National BDPA’s Epsilon Award for Professional Achievement. In 2012, she became the first African American woman to receive a Ph.D. in Computer Science and Engineering from the University of Michigan.
Janet Emerson Bashen is the first African American woman to hold a software patent in the United States. After some time, storing and retrieving information related to her EEO cases became difficult. There was a need for a solution and in 2001, Bashen, together with her cousin Donny Moore who is a computer scientist from Tufts University, developed an EEO app that could be used to securely store information about her cases and called it LinkLine. The U.S. Patent and Trademark Office granted Ms. Bashen her patent in 2006.
Kimberly Bryant is Founder and Executive Director of Black Girls CODE, a non-profit organization dedicated to “changing the face of technology” by introducing girls of color (ages 7-17) to new fields of technology and computer sciences with a concentration on entrepreneurial concepts. Ms. Bryant founded Black Girls CODE in 2011 and was honored by the White House during 2013’s Technology Inclusion "Champions of Change" event.
Deena Pierott is the Founder and Executive Director of the iUrban Teen program, a program that exposes "non-traditional" STEM learners to career opportunities while encouraging high school graduation and extended learning. She was moved to create the program when she served in a governor-appointed role on the Commission on African Affairs in Washington State and observed the increasing high school dropout rate. While the target demographic for the program is African American and Latino Males, the program is inclusive of all youth who fall within the Non-Traditional STEM Learners category and has a strong representation of girls as well. In 2013, the White House recognized Ms. Pierott as one of our nation's Champions of Change for Technology Inclusion.
Byte Back is the 2017 Community Award recipient for National BDPA’s Washington, D.C. Chapter. Ms. Elizabeth Lindsey is Byte Back’s Executive Director.

In October of 2018, Toronto-Dominion (TD) Bank announced Byte Back as one of 10 recipients to receive their inaugural TD Ready Challenge grants. Byte Back will use $775,000 to expand operations into Baltimore, Maryland.
Commemorating Women’s History Month

NASA OPSPARC finalists were awarded Amazon Fire HD 10 tablets and Best Buy gift cards from their host BDPA Chapter’s Tablets For Teens program during CYBEREarth18, BDPA’s annual Earth Day Tech Summit. Aaron Saunders, CEO of In3DC, In3’s Community Manager, Marissa Jennings, founder of Socialgrlz’ Teen Mobile App, and Travis Bolden of Hales Government Solutions, provided facilities and equipment with materials and weekly coaching to assist these NASA innovators. Students (above) are India Skinner, Bria Snell, and Mikayla Sharrief.
Little League phenom and superstar *Mo’ne Davis*. Ms. Davis was one of two girls who played in the 2014 Little League World Series and was the first girl to earn a win and to pitch a shutout in Little League World Series history. She was the 18th girl overall to play, the sixth to get a hit, and the first African-American girl to compete in the Little League World Series. Ms. Davis is the first Little League baseball player to appear on the cover of *Sports Illustrated* as a Little League player.
Celebrating International Women’s Day

International Women’s Day, March 8th, is a global day celebrating the social, economic, cultural and political achievements of women. The day also marks a call to action for accelerating gender parity.

Since 1975, National BDPA has recognized and continues to support women in Computer Sciences. International Women’s Day (IWD) has occurred for well over a century, with the first IWD gathering in 1911 supported by over a million people in Austria, Denmark, Germany and Switzerland.
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