

116TH CONGRESS
1ST SESSION

S. 590

To award Congressional Gold Medals to Katherine Johnson and Dr. Christine Darden, to posthumously award Congressional Gold Medals to Dorothy Vaughan and Mary Jackson, and to award a Congressional Gold Medal to honor all of the women who contributed to the success of the National Aeronautics and Space Administration during the Space Race.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 27, 2019

Mr. COONS (for himself, Ms. MURKOWSKI, Ms. HARRIS, Mrs. HYDE-SMITH, Mr. GARDNER, Mrs. FISCHER, Mr. KENNEDY, Mr. ISAKSON, Ms. ERNST, Mr. ALEXANDER, Mr. RUBIO, Mr. BURR, Mr. PORTMAN, Mr. BLUNT, Mrs. CAPITO, Ms. COLLINS, Mr. TILLIS, Mr. SCOTT of South Carolina, Mrs. BLACKBURN, Ms. KLOBUCHAR, Mr. KING, Mr. CARDIN, Mr. SANDERS, Mr. CASEY, Ms. CORTEZ MASTO, Mr. VAN HOLLEN, Mr. SCHUMER, Mr. BOOKER, Ms. STABENOW, Mrs. FEINSTEIN, Mr. DURBIN, Mr. JONES, Ms. WARREN, Mr. PETERS, Mr. REED, Mrs. SHAHEEN, Mr. MERKLEY, Mr. MANCHIN, Mr. TESTER, Ms. HASSAN, Ms. CANTWELL, Mr. BENNET, Mr. LEAHY, Mr. BLUMENTHAL, Mr. WYDEN, Mr. WHITEHOUSE, Ms. BALDWIN, Ms. DUCKWORTH, Mr. KAINE, Mr. CARPER, Mr. MORAN, Mr. SULLIVAN, Mr. HOEVEN, Mr. WICKER, Mr. SCHATZ, Mr. MURPHY, Mr. MARKEY, Mrs. GILLIBRAND, Mr. WARNER, Mrs. MURRAY, Ms. SMITH, Mr. UDALL, and Ms. SINEMA) introduced the following bill; which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

A BILL

To award Congressional Gold Medals to Katherine Johnson and Dr. Christine Darden, to posthumously award Congressional Gold Medals to Dorothy Vaughan and Mary Jackson, and to award a Congressional Gold Medal to honor all of the women who contributed to the success

of the National Aeronautics and Space Administration during the Space Race.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Hidden Figures Con-
5 gressional Gold Medal Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

8 (1) In 1935, the National Advisory Committee
9 for Aeronautics (referred to in this section as
10 “NACA”) hired 5 women to serve as the first “com-
11 puter pool” at the Langley Memorial Aeronautical
12 Laboratory where those women took on work mak-
13 ing calculations that male engineers had made pre-
14 viously.

15 (2) During the 1940s, NACA began recruiting
16 African-American women to work as computers and
17 initially separated those women from their White
18 counterparts in a group known as the “West Area
19 Computers” where the women were restricted to seg-
20 regated dining and bathroom facilities.

21 (3) Katherine Johnson was born on August 26,
22 1918, in White Sulphur Springs, West Virginia.

23 (4) In 1953, Katherine Johnson began her ca-
24 reer in aeronautics as a computer in the segregated

1 West Area Computing unit described in paragraph
2 (2).

3 (5) As a member of the Flight Research Divi-
4 sion, Katherine Johnson analyzed data from flight
5 tests. After NACA was reformulated into the Na-
6 tional Aeronautics and Space Administration (re-
7 ferred to in this section as “NASA”), Katherine
8 Johnson—

9 (A) calculated the trajectory for Alan
10 Shepard’s Freedom 7 mission in 1961, which
11 was the first human spaceflight by an indi-
12 vidual from the United States;

13 (B) co-authored a report that provided the
14 equations for describing orbital spaceflight with
15 a specified landing point, which made her the
16 first woman to be recognized as an author of a
17 report from the Flight Research Division;

18 (C) was asked to verify the calculations
19 when electronic computers at NASA were used
20 to calculate the orbit for John Glenn’s Friend-
21 ship 7 mission; and

22 (D) provided calculations for NASA
23 throughout her career, including for the Apollo
24 missions.

1 (6) Katherine Johnson retired from NASA in
2 1986.

3 (7) Dr. Christine Darden was born on Sep-
4 tember 10, 1942, in Monroe, North Carolina.

5 (8) In 1962, Dr. Christine Darden graduated
6 from Hampton Institute with a B.S. in Mathematics
7 and a teaching credential.

8 (9) Dr. Christine Darden attended Virginia
9 State University where she studied aerosol physics
10 and earned an M.S. in Applied Mathematics.

11 (10) Dr. Christine Darden began her career in
12 aeronautics in 1967 as a data analyst at NASA's
13 Langley Research Center (referred to in this section
14 as "Langley") before being promoted to aerospace
15 engineer in 1973. Her work in this position resulted
16 in the production of low-boom sonic effects, which
17 revolutionized aerodynamics design.

18 (11) Dr. Christine Darden completed her edu-
19 cation by earning a Ph.D. in Mechanical Engineer-
20 ing from George Washington University in 1983.

21 (12) While working at NASA, Dr. Christine
22 Darden—

23 (A) was appointed to be the leader of the
24 Sonic Boom Team, which worked on designs to

1 minimize the effects of sonic booms by testing
2 wing and nose designs for supersonic aircraft;

3 (B) wrote more than 50 articles on aero-
4 nautics design; and

5 (C) became the first African American to
6 be promoted to a position in the Senior Execu-
7 tive Service at Langley.

8 (13) Dorothy Vaughan was born on September
9 20, 1910, in Kansas City, Missouri.

10 (14) Dorothy Vaughan began working for
11 NACA in 1943. Dorothy Vaughan—

12 (A) started at NACA as a member of the
13 West Area Computing unit;

14 (B) was promoted to be the head of the
15 West Area Computing unit, becoming NACA's
16 first African-American supervisor, a position
17 that she held for 9 years; and

18 (C) became an expert programmer in
19 FORTRAN as a member of NASA's Analysis
20 and Computation Division.

21 (15) Dorothy Vaughan retired from NASA in
22 1971 and died on November 10, 2008.

23 (16) Mary Jackson was born on April 9, 1921,
24 in Hampton, Virginia.

1 (17) Mary Jackson started her career at NACA
2 in 1951, working as a computer as a member of the
3 West Area Computing unit.

4 (18) After petitioning the city of Hampton to
5 allow her to take graduate-level courses in math and
6 physics at night at the all-White Hampton High
7 School, Mary Jackson was able to complete the re-
8 quired training to become an engineer, making her
9 NASA's first female African-American engineer.

10 (19) Mary Jackson—

11 (A) while at NACA and NASA—

12 (i) worked in the Theoretical Aero-
13 dynamics Branch of the Subsonic-Tran-
14 sonic Aerodynamics Division at Langley
15 where she analyzed wind tunnel and air-
16 craft flight data; and

17 (ii) published a dozen technical papers
18 that focused on the boundary layer of air
19 around airplanes; and

20 (B) after 21 years working as an engineer
21 at NASA, transitioned to a new job as
22 Langley's Federal Women's Program Manager
23 where she worked to improve the prospects of
24 NASA's female mathematicians, engineers, and
25 scientists.

1 (20) Mary Jackson retired from NASA in 1985
2 and died in 2005.

3 (21) These 4 women, along with the other Afri-
4 can-American women in NASA's West Area Com-
5 puting unit, were integral to the success of the early
6 space program. The stories of these 4 women exem-
7 plify the experiences of hundreds of women who
8 worked as computers, mathematicians, and engi-
9 neers at NACA beginning in the 1930s and the
10 handmade calculations that they made played an in-
11 tegral role in—

12 (A) aircraft testing during World War II;

13 (B) supersonic flight research;

14 (C) sending the Voyager probes to explore
15 the solar system; and

16 (D) the United States landing the first
17 man on the lunar surface.

18 **SEC. 3. CONGRESSIONAL GOLD MEDALS.**

19 (a) PRESENTATION AUTHORIZED.—The Speaker of
20 the House of Representatives and the President pro tem-
21 pore of the Senate shall make appropriate arrangements
22 for the presentation, on behalf of Congress, of 5 gold med-
23 als of appropriate design as follows:

1 (1) One gold medal to Katherine Johnson in
2 recognition of her service to the United States as a
3 mathematician.

4 (2) One gold medal to Dr. Christine Darden for
5 her service to the United States as an aeronautical
6 engineer.

7 (3) In recognition of their service to the United
8 States during the Space Race—

9 (A) 1 gold medal commemorating the life
10 of Dorothy Vaughan; and

11 (B) 1 gold medal commemorating the life
12 of Mary Jackson.

13 (4) One gold medal in recognition of all women
14 who served as computers, mathematicians, and engi-
15 neers at the National Advisory Committee for Aero-
16 nautics and the National Aeronautics and Space Ad-
17 ministration between the 1930s and the 1970s (re-
18 ferred to in this section as “recognized women”).

19 (b) DESIGN AND STRIKING.—For the purpose of the
20 awards under subsection (a), the Secretary of the Treas-
21 ury (referred to in this Act as the “Secretary”) shall strike
22 each gold medal described in that subsection with suitable
23 emblems, devices, and inscriptions, to be determined by
24 the Secretary.

1 (c) TRANSFER OF CERTAIN MEDALS AFTER PRES-
 2 ENTATION.—

3 (1) SMITHSONIAN INSTITUTION.—

4 (A) IN GENERAL.—After the award of the
 5 gold medal commemorating the life of Dorothy
 6 Vaughan under subsection (a)(3)(A) and the
 7 award of the gold medal in recognition of recog-
 8 nized women under subsection (a)(4), those
 9 medals shall be given to the Smithsonian Insti-
 10 tution where the medals shall be—

11 (i) available for display, as appro-
 12 priate; and

13 (ii) made available for research.

14 (B) SENSE OF CONGRESS.—It is the sense
 15 of Congress that the Smithsonian Institution
 16 should make the gold medals received under
 17 subparagraph (A) available for—

18 (i) display, particularly at the Na-
 19 tional Museum of African American His-
 20 tory and Culture; or

21 (ii) loan, as appropriate, so that the
 22 medals may be displayed elsewhere.

23 (2) TRANSFER TO FAMILY.—After the award of
 24 the gold medal in honor of Mary Jackson under sub-

1 section (a)(3)(B), the medal shall be given to her
2 granddaughter, Wanda Jackson.

3 **SEC. 4. DUPLICATE MEDALS.**

4 Under regulations that the Secretary may promul-
5 gate, the Secretary may strike and sell duplicates in
6 bronze of the gold medals struck under this Act, at a price
7 sufficient to cover the cost of the medals, including labor,
8 materials, dies, use of machinery, and overhead expenses.

9 **SEC. 5. STATUS OF MEDALS.**

10 (a) NATIONAL MEDALS.—The medals struck under
11 this Act are national medals for purposes of chapter 51
12 of title 31, United States Code.

13 (b) NUMISMATIC ITEMS.—For purposes of sections
14 5134 and 5136 of title 31, United States Code, all medals
15 struck under this Act shall be considered to be numismatic
16 items.

17 **SEC. 6. AUTHORITY TO USE FUND AMOUNTS; PROCEEDS OF**
18 **SALE.**

19 (a) AUTHORITY TO USE FUND AMOUNTS.—There is
20 authorized to be charged against the United States Mint
21 Public Enterprise Fund such amounts as may be nec-
22 essary to pay for the costs of the medals struck under
23 this Act.

24 (b) PROCEEDS OF SALE.—Amounts received from the
25 sale of duplicate bronze medals authorized under section

- 1 4 shall be deposited into the United States Mint Public
- 2 Enterprise Fund.

