

115<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# S. 3321

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## AN ACT

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,*

1 **SECTION 1. SHORT TITLE.**

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

4 **SEC. 2. FINDINGS.**

5 Congress finds the following:

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

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

19 (3) Katherine Johnson was born on August 26,  
20 1918, in White Sulphur Springs, West Virginia.

21 (4) In 1953, Katherine Johnson began her ca-  
22 reer in aeronautics as a computer in the segregated  
23 West Area Computing unit described in paragraph  
24 (2).

25 (5) As a member of the Flight Research Divi-  
26 sion, Katherine Johnson analyzed data from flight

1 tests. After NACA was reformulated into the Na-  
2 tional Aeronautics and Space Administration (re-  
3 ferred to in this section as “NASA”), Johnson—

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

8 (B) coauthored a report that provided the  
9 equations for describing orbital spaceflight with  
10 a specified landing point, which made her the  
11 first woman to be recognized as an author of a  
12 report from the Flight Research Division;

13 (C) was asked to verify the calculations  
14 when electronic computers at NASA were used  
15 to calculate the orbit for John Glenn’s Friend-  
16 ship 7 mission; and

17 (D) provided calculations for NASA  
18 throughout her career, including for the Apollo  
19 missions.

20 (6) Katherine Johnson retired from NASA in  
21 1986.

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

1           (8) In 1962, Dr. Christine Darden graduated  
2 from Hampton Institute with a B.S. in Mathematics  
3 and a teaching credential.

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

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

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

17           (12) While working at NASA, Dr. Christine  
18 Darden—

19           (A) was appointed to be the leader of the  
20 Sonic Boom Team, which worked on designs to  
21 minimize the effects of sonic booms by testing  
22 wing and nose designs for supersonic aircraft;

23           (B) wrote more than 50 articles on aero-  
24 nautics design; and

1           (C) became the first African American to  
2           be promoted to a position in the Senior Execu-  
3           tive Service at Langley.

4           (13) Dorothy Vaughan was born on September  
5           20, 1910, in Kansas City, Missouri.

6           (14) Dorothy Vaughan began working for  
7           NACA in 1943. Vaughan—

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

10          (B) was promoted to be the head of the  
11          West Area Computing unit, becoming NACA’s  
12          first African American supervisor, a position  
13          that she held for 9 years; and

14          (C) became an expert programmer in  
15          FORTRAN as a member of NASA’s Analysis  
16          and Computation Division.

17          (15) Dorothy Vaughan retired from NASA in  
18          1971 and died on November 10, 2008.

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

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

24          (18) After petitioning the City of Hampton to  
25          allow her to take graduate-level courses in math and

1 physics at night at the all-White Hampton High  
2 School, Mary Jackson was able to complete the re-  
3 quired training to become an engineer, making her  
4 NASA's first female African American engineer.

5 (19) Mary Jackson—

6 (A) while at NACA and NASA—

7 (i) worked in the Theoretical Aero-  
8 dynamics Branch of the Subsonic-Tran-  
9 sonic Aerodynamics Division at Langley  
10 where she analyzed wind tunnel and air-  
11 craft flight data; and

12 (ii) published a dozen technical papers  
13 that focused on the boundary layer of air  
14 around airplanes; and

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

21 (20) Mary Jackson retired from NASA in 1985  
22 and died in 2005.

23 (21) These 4 women, along with the other Afri-  
24 can American women in NASA's West Area Com-  
25 puting unit, were integral to the success of the early

1 space program. The stories of these 4 women exem-  
2 plify the experiences of hundreds of women who  
3 worked as computers, mathematicians, and engi-  
4 neers at NACA beginning in the 1930s and their  
5 handmade calculations played an integral role in—

6 (A) aircraft testing during World War II;

7 (B) supersonic flight research;

8 (C) sending the Voyager probes to explore  
9 the solar system; and

10 (D) the United States landing the first  
11 man on the lunar surface.

12 **SEC. 3. CONGRESSIONAL GOLD MEDALS.**

13 (a) PRESENTATION AUTHORIZED.—The Speaker of  
14 the House of Representatives and the President pro tem-  
15 pore of the Senate shall make appropriate arrangements  
16 for the presentation, on behalf of Congress, of 5 gold med-  
17 als of appropriate design as follows:

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

21 (2) One gold medal to Dr. Christine Darden for  
22 her service to the United States as an aeronautical  
23 engineer.

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

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

3           (B) 1 gold medal commemorating the life  
4           of Mary Jackson.

5           (4) One gold medal in recognition of all women  
6           who served as computers, mathematicians, and engi-  
7           neers at the National Advisory Committee for Aero-  
8           nautics and the National Aeronautics and Space Ad-  
9           ministration between the 1930s and the 1970s (re-  
10          ferred to in this section as “recognized women”).

11          (b) DESIGN AND STRIKING.—For the purpose of the  
12          awards under subsection (a), the Secretary of the Treas-  
13          ury (referred to in this Act as the “Secretary”) shall strike  
14          each gold medal described in that subsection with suitable  
15          emblems, devices, and inscriptions, to be determined by  
16          the Secretary.

17          (c) TRANSFER OF CERTAIN MEDALS AFTER PRES-  
18          ENTATION.—

19                (1) SMITHSONIAN INSTITUTION.—

20                   (A) IN GENERAL.—After the award of the  
21                   gold medal commemorating the life of Dorothy  
22                   Vaughan under subsection (a)(3)(A) and the  
23                   award of the gold medal in recognition of recog-  
24                   nized women under subsection (a)(4), those



1 medals shall be given to the Smithsonian Insti-  
2 tution where the medals shall be—

3 (i) available for display, as appro-  
4 priate; and

5 (ii) made available for research.

6 (B) SENSE OF CONGRESS.—It is the sense  
7 of Congress that the Smithsonian Institution  
8 should make the gold medals received under  
9 subparagraph (A) available for—

10 (i) display, particularly at the Na-  
11 tional Museum of African American His-  
12 tory and Culture; or

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

15 (2) TRANSFER TO FAMILY.—After the award of  
16 the gold medal in honor of Mary Jackson under sub-  
17 section (a)(3)(B), the medal shall be given to her  
18 granddaughter, Wanda Jackson.

19 **SEC. 4. DUPLICATE MEDALS.**

20 Under regulations that the Secretary may promul-  
21 gate, the Secretary may strike and sell duplicates in  
22 bronze of the gold medals struck under this Act, at a price  
23 sufficient to cover the cost of the medals, including labor,  
24 materials, dies, use of machinery, and overhead expenses.

1 **SEC. 5. STATUS OF MEDALS.**

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

5 (b) NUMISMATIC ITEMS.—For purposes of sections  
6 5134 and 5136 of title 31, United States Code, all medals  
7 struck under this Act shall be considered to be numismatic  
8 items.

9 **SEC. 6. AUTHORITY TO USE FUND AMOUNTS; PROCEEDS OF**  
10 **SALE.**

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

16 (b) PROCEEDS OF SALE.—Amounts received from the  
17 sale of duplicate bronze medals authorized under section  
18 4 shall be deposited into the United States Mint Public  
19 Enterprise Fund.

Passed the Senate November 15, 2018.

Attest:

*Secretary.*



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