

# *Continuum of Greatness*

*The Hall of Fame for Great Americans  
at Bronx Community College, CUNY*



## *María Mitchell*

*1818-1889*

*“Every formula which expresses a law of nature is a hymn of praise to God.”*

### **Hall of Fame Facts**

- Elected into Hall of Fame: 1905
- Vote received: 48, the minimum needed that year
- Mary Lyon and Emma Willard were elected the same year—the first three women so honored
- Bust a replica of a work sculpted by Emma F. Brigham, 1877

# Maria Mitchell

## August 1, 1818-June 28, 1889



**M**aria Mitchell, born in 1818 in Nantucket, Massachusetts, was the first person to identify a comet not visible to the naked eye. She later became a professor at Vassar, helping open up science education for women, while fighting for equal pay and equal rights.

Mitchell was the daughter of Lydia Coleman and William Mitchell. Her father was a banker, schoolteacher and self-taught astronomer who took a strong interest in his daughter's education. He taught her to read the skies in his observatory. In 1836, Mitchell became the librarian for the Nantucket Athenaeum, where she continued to educate herself.

In 1847, Mitchell identified the comet, which was eventually named for her, earning international fame as a result. The following year, she became the first woman admitted to the American Academy of Arts and Sciences; another female would not be so honored for over ninety years. She was also elected to the

American Association for the Advancement of Science and awarded a gold medal by the King of Denmark. In the 1850s, Mitchell toured Europe, where she was treated as a celebrity. On the trip, she lobbied successfully to be admitted to the Vatican Observatory, which had previously only allowed men to enter. From 1848 through 1864, she calculated the orbit of Venus for the United States *Nautical Almanac*, a critical navigation tool for sailors.

Mitchell was one of nine professors hired by Matthew Vassar when he founded Vassar, the college for women in Poughkeepsie, New York. In 1865, Mitchell and her father moved into the Vassar Observatory, the first building completed on the campus. In an era in which even male college students rarely did original research, Mitchell engaged her students in experiments and observations. They were required to awake in the middle of the night to work in the observatory. Mitchell traveled with them to Iowa and Colorado to witness eclipses and published her students' findings along with her own in scientific journals. Samuel F. B. Morse, the inventor of the telegraph and also a member of the Hall of Fame, donated his telegraphy instrument for the students to use in their work.



*Maria Mitchell and her father, 1870s.*

1847  
↓  
Maria Mitchell discovers comet.



1877  
↓  
Edward Charles Pickering, the new Director of the Harvard College Observatory, begins to hire women as "computers," who calculate information and record data about the stars.

1880  
↓  
Sarah Whiting, the first physics professor at Wellesley, introduces astronomy to the college's curriculum after visiting Pickering's observatory.

1918-1924  
↓  
Annie Jump Cannon, who studied with Sarah Whiting, publishes her system of classifying spectra of stars, still in use in ninety years later.

1865  
↓  
Mitchell starts at Vassar.



1912  
↓  
Henrietta Swan Leavitt determines a way to calculate extragalactic distances.

1959  
↓  
Geraldine Cobb passes tests for the Mercury astronaut training program.



One of Mitchell's students, Mary Whitney, eventually succeeded her as Vassar's Professor of Astronomy. Whitney and two other of Mitchell's students, Dr. Antonia Maury and Dr. Christine Ladd Franklin, were listed in *American Men of Science* in 1906.

Mitchell continued her own work as well, including inventing one of the first instruments capable of photographing the sun. Her glass plates were only recently discovered in the Maria Mitchell Observatory, where they had remained undisturbed for over a century.

The astronomer's career coincided with the nineteenth-century women's rights movement; the famous Seneca Falls Convention, which helped launch the movement, was held only one year after Mitchell discovered her comet. She worked for the cause, as well as serving as a useful symbol of female achievement for activists. Mitchell believed that applying the scientific method of careful observation and experimentation would help women achieve equal rights. She stated, "Until women throw off reverence for authority they will not develop. When they do this, when they come to truth through their own investigations, when doubts lead them to discovery, the truth they get will be theirs, and their minds will go on unfettered." Furious when she learned that she was paid less than male professors at Vassar, she spent years fighting for equal compensation; the issue was never fully resolved. Mitchell hosted women's rights lectures in the observatory. She was a founder of the American Association for the Advancement of Women in 1872, and, beginning in 1875, served as the president of the organization for two years.

Mitchell retired from Vassar in 1888. She died the following year.



*The Maria Mitchell Observatory (1864) was the first building to be completed on the Vassar campus. With input from Mitchell, it was designed by Charles S. Farrar. The professor often hosted "Dome Parties," where her students heard lectures and wrote and recited poetry. In 1991, the building was designated a National Historic Landmark. For more information, visit: [http://vcencyclopedia.vassar.edu/index.php/Maria\\_Mitchell\\_Observatory](http://vcencyclopedia.vassar.edu/index.php/Maria_Mitchell_Observatory)*

Written and compiled by Kate Culkin, Ph.D., Bronx Community College  
 Graphic design and layout by Chrystal Joseph

1978  
 ↓  
 NASA chooses six female candidates.

1984  
 ↓  
 Kathryn Sullivan walks in space, the first American female to do so.

1992  
 ↓  
 Mae Jemison becomes first African American woman in space.

1993  
 ↓  
 Ellen Ochoa becomes first Hispanic American woman in space.

1983  
 ↓  
 Sally Ride becomes the first American woman in space.



1987  
 ↓  
 Sidney C. Wolff is appointed the director of the National Optical Astronomy Observatory.



1999  
 ↓  
 Eileen Collins serves as commander of the Columbia.

1996  
 ↓  
 Shannon Lucid sets an American record for time spent in space.



*Maria Mitchell and her first Vassar class, 1866.*

*When you leave Vassar College, you leave it the best educated women in the world. Living a little outside the college, beyond the reach of the little currents that go up and down the corridors, I think I am fairer judge of your advantages that you can be yourselves; and when I say you will be the best educated women in the world, I do not mean the education of text-books and class rooms, and apparatus, only, but that broader education which you receive unconsciously, that higher teaching which comes to you, all unknown to the givers, from daily association with the noble women who surround you.*

—Maria Mitchell to her students, 1866

#### **Sources Consulted and Further Reading**

The Maria Mitchell Collection, Vassar College Archives

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Beacon, Renee. *Maria Mitchell and the Sexing of American Science: An Astronomer Among the American Romantics*. Boston: Beacon Press, 2008.

Kendell, Phebe Mitchell, ed. *Maria Mitchell: Life, Letters, and Journals*. Boston: Lee and Shepard Publishers, 1896.

Gormley, Beatrice. *Maria Mitchell: The Soul of an Astronomer*. Wm. B. Eerdmans Publishing co., 1995.

Wright, Helen, with Debra Meloy Elmegreen and Frederick R. Chromey. *Sweeper in the Sky: The Life of Maria Mitchell*. Attic Studio Pr., 1997.

#### **Mitchell Links:**

History of Women in Astronomy  
<http://cannon.sfsu.edu/~gmarcy/cswa/history/history.html>

Maria Mitchell House  
<http://www.nps.gov/history/nr/travel/pwmmh/ma74.htm>

Maria Mitchell Association  
<http://www.mmo.org/>

Maria Mitchell, Vassar Encyclopedia  
[http://vcencyclopedia.vassar.edu/index.php/Maria\\_Mitchell](http://vcencyclopedia.vassar.edu/index.php/Maria_Mitchell)

Maria Mitchell and Women's Rights, Vassar Encyclopedia  
[http://vcencyclopedia.vassar.edu/index.php/Maria\\_Mitchell\\_and\\_Women%27s\\_Rights](http://vcencyclopedia.vassar.edu/index.php/Maria_Mitchell_and_Women%27s_Rights)

National Women's Hall of Fame  
<http://www.greatwomen.org/women.php?action=viewone&id=110>

The Trail Blazers, Teachers' Features  
<http://www.massmoments.org/teachers/lesson.cfm?lid=26>