Bulletin of the AAS • Vol. 54, Issue 1 (Obituaries, News & Commentaries, Community Reports)

Mercedes T. Richards (1955–2016)

Christopher Corbally¹

¹Vatican Observatory

Published on: Jan 10, 2022

DOI: 10.3847/25c2cfef.f7e61acd

License: [Creative Commons Attribution 4.0 International License \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

**Dr. Mercedes Tharam Richards, 60,
passed away on Wednesday
February 3, 2016 in Hershey,
Pennsylvania.**

Mercedes was born on May 14, 1955, in Kingston, Jamaica, to Frank and Phyllis Davis. Her father, a police detective, instilled in her the skills of observation and deduction, while her mother, an accountant, gave her a commitment to precision in her work. Not surprisingly, these gifts led her to decide to be an astronomer, by around the sixth grade.

Photo credit: Wendy Estep and Sara Brennen.

Her schooling started at Providence Primary and St. Hugh's High schools in Kingston, and these led to her graduation in 1977 with a B.Sc. (Special Honors) in Physics from the University of West Indies. Then followed in 1979 an M.S. in Space Science from York University, Toronto, and in 1986 her Ph.D. in Astronomy and Astrophysics from the University of Toronto. Of particular support with the demands of graduate work were her husband Donald Richards, a mathematical statistician whom she married in 1980, and a cohesive group of graduate students, who enjoyed her sense of humor and characteristic smile.

After her doctorate, Mercedes was a visiting scholar at the University of North Carolina until 1987 when she became an assistant professor in the Department of Astronomy at the University of Virginia, Charlottesville. Gradually, she moved up to become a full professor in 1999. During this time, she pioneered the use of spectroscopic tomography in astronomy, by applying this medical CAT-scan technique to binary star systems of a kind she had modeled in her doctoral thesis. Using tomography she found she could actually build up an image of the flows of gas between the two stars. Her binary systems included Algols, as modeled in the backdrop to her picture above, and gamma-ray binaries.

Such interest and skills in binary systems flowed into other research areas. One was the investigation of magnetic activity in cool stars and the Sun. Another was using distance correlation methods on large astrophysical databases for discovering stellar associations. Mercedes' collaborations were extensive. A prime example is when she

received a Fulbright Distinguished Chairs Research Scholar award from the Council for International Exchange of Scholars and the Slovak Fulbright Commission. This allowed her to conduct research on interacting binary stars with colleagues at the Astronomical Institute of Slovakia during 2010–11. This sabbatical year neatly coincided with her co-organizing in Slovakia the first joint international meeting between binary star specialists, the IAU Symposium 282. Her collaborative visits included ones to the Institute for Advanced Study in Princeton, New Jersey, in 2000 as an invited scientist, to the University of Heidelberg, Germany, in 2013, and to many observatories worldwide. These visits stretched Mercedes, with her family's help, to communicate in other languages. She was fluent in French, and had a working knowledge of German, Spanish, Slovak, and Czech.

Research, however, was just a part, albeit a vital one of her life. Both at the University of Virginia and after she moved to Penn State in 2002, Mercedes' love of "infecting" (her word) students with a passion for science was clear and important. For this reason, as well as her pioneering research, she had earlier been invited to become one of the faculty at the month-long Vatican Observatory Summer School (VOSS) in 1999 on Observations and Theoretical Understanding of Single Stars and Close Binary Systems. These astrophysics schools, organized biennially since their start in 1986, aim to invite 25 early-graduate level students, half of whom will be women and near two-thirds from developing countries. Mercedes knew from her own high school days in Jamaica the importance of having female mentors as role models if young women were to pursue science careers. With her broad interests — she was a classical violinist, wrote several volumes of poetry, an avid photographer, and very competitive in board games — she was an ideal faculty member. Mercedes was accompanied to the VOSS by her husband, who also gave some lectures, and by their two daughters.

The distinguished Fulbright award has been mentioned. Two years before that Mercedes received the Musgrave Medal in Gold, awarded annually by the Institute of Jamaica to Jamaican natives who have contributed greatly to the fields of art, literature, and science. Since she was only the 14th scientist up until then to receive this award, it came as quite a surprise to her. In the following year, 2009, an Award for Outstanding Achievement in Astronomy & Astrophysics was given by her high school, St. Hugh's, on its 110th Anniversary, and in 2013 she was awarded the American Physical Society Woman Physicist of the Month Award.

Mercedes served in elected posts as president of Commission 42 of the IAU and as a Counselor of the AAS. She was a member of the Board of Advisers of the Caribbean

Institute of Astronomy and part of the Eberly College of Science's Climate and Diversity Committee. Among many outreach activities, she was a co-founder of the Summer Experience in the Eberly College of Science. This six-week summer academy was designed as a college preparation, instruction and research experience for low-income high school students.

A Memorial Meeting for Worship to remember Mercedes Richards was held on February 13, 2016, at the State College Friends Meeting, Pennsylvania. This reflected Mercedes' Quaker upbringing. Typical of Mercedes' concerns, the family asked for contributions in her honor to be made to the Food Bank of State College.

Additional Links

- <https://kochfuneralhome.com/tribute/details/1159/Mercedes-Richards/obituary.html>
- <https://science.psu.edu/news/memorial-mercedes-richards-1955-2016>
- <https://www.psu.edu/news/research/story/stellar-detective-profile-professor-mercedes-richards/>
- <https://web.archive.org/web/20160610104510/http://www2.astro.psu.edu/~mrichards/>