



Allyson Sheffield, PhD is associate professor of physics in the [Department of Natural Sciences](#) at LaGuardia Community College, part of The City University of New York (CUNY).

A Rhode Island native, Dr. Sheffield found that she had a knack for calculus during high school.

She then went to NYU, where she fell in love with astronomy, and graduated with a bachelor's in physics. Next, she earned both a master's and doctorate in astronomy at the University of Virginia in Charlottesville.

She then took a position as a visiting assistant professor at Vassar College, where she taught physics and astronomy. Her path then led her to Columbia University, where she took a postdoc position as a science teaching fellow.

After a few years, she decided to seek a teaching position at a community college because, "it's such an inspiring environment for a teacher who loves to teach, as I do."

When offered a tenure-track job teaching physics at LaGuardia, Dr. Sheffield was "thrilled!"

She joined the LaGuardia Community College in September 2014, where she teaches astronomy, astrobiology, and physics.

As Dr. Sheffield says, "I really enjoy teaching at LaGuardia. It's an inspiring environment—the students come from so many diverse backgrounds, and bring so much energy and enthusiasm to their studies. Compared to the four-year colleges where I've taught, it's a different type of atmosphere, but academically there's very little difference. I have used some of the same slides that I used when teaching at Vassar and Columbia. And I always start each astronomy class by showing [NASA's astronomy picture of the day](#).

"In my experience, the students at LaGuardia Community College are eager to learn—sometimes they just need an extra push to gain the self-confidence they need to be successful in college and beyond, and I want to help give them this push."

In addition to advising her LaGuardia students, Dr. Sheffield helps guide aspiring astronomers throughout CUNY through [AstroCom NYC](#), an undergraduate mentoring program designed to improve urban minority student access to opportunities in astrophysical research by greatly enhancing partnerships between research astronomers in New York City. It's run as a partnership between [The City University of New York](#), the [American Museum of Natural History](#), and the new [Center for Computational Astrophysics \(CCA\) at Flatiron Institute](#).

Dr. Sheffield regularly travels to the [Kitt Peak National Observatory](#) in Arizona, as well as to Chile's [Observatorio Astronómico Nacional de Chile](#) to collect optical and near-IR spectra, from which she derives and analyzes the chemodynamical properties for these old stars.

Her research is focused on the structure and formation of the Milky Way. She studies the motions and chemical abundances of old stars, mainly M giants and RR Lyrae stars, in the halo of the Milky Way Galaxy.

As she says, “These types of old stars are excellent probes of the outer regions of the Milky Way and enable an understanding of both the small- and large-scale structure of the Galaxy.”

Stars that Dr. Sheffield is particularly interested in are part of Galactic substructures—tidal streams and diffuse stellar clouds. The properties of these substructures can help constrain the shape and extent of the Milky Way's dark matter halo.

The research published in **Nature** is a continuation of research she got involved with while she was at Columbia.

Dr. Allyson Sheffield's recent publications include:

1. **A. A. Sheffield**, A. M. Price-Whelan, A. Tzanidakis, K. V. Johnston, C. F. P. Laporte, & B. Sesar. A Disk Origin for the Monoceros Ring and A13 Stellar Overdensities. *The Astrophysical Journal*, 854, 47, 2018.
<http://iopscience.iop.org/article/10.3847/1538-4357/aaa4b6/meta>
2. K. V. Johnston, A. M. Price-Whelan, M. Bergemann, C. F. P. Laporte, T. S. Li, **A. A. Sheffield**, S. R. Majewski, R. S. Beaton, B. Sesar, & S. Sharma. Disk Heating, Galactoseismology, and the Formation of Stellar Halos. *Galaxies*, 5(3), 44, 2017.
<http://www.mdpi.com/2075-4434/5/3/44>
3. T. S. Li, **A. A. Sheffield**, K. V. Johnston, J. L. Marshall, S. R. Majewski, A. M. Price-Whelan, H. R. Rocha-Pinto, & S. Sharma. Exploring Halo Substructure with Giant Stars. XV. Discovery of a Connection between the Monoceros Ring and the Triangulum–Andromeda Overdensity? *The Astrophysical Journal*, 844(1), 74, 2017.
<http://iopscience.iop.org/article/10.3847/1538-4357/aa7a0d/meta>
4. A. M. Price-Whelan, K. V. Johnston, **A. A. Sheffield**, C. F. P. Laporte, & B. Sesar. A reinterpretation of the Triangulum–Andromeda stellar clouds: a population of halo stars kicked out of the Galactic disc. *Monthly Notices of the Royal Astronomical Society*, 452(1), 676-685, 2015. <https://academic.oup.com/mnras/article-abstract/452/1/676/1750657>
5. **A. A. Sheffield**, K. V. Johnston, S. R. Majewski, G. Damke, W. Richardson, R. Beaton, & H. J. Rocha-Pinto. Exploring halo substructure with giant stars. XIV. The nature of the Triangulum-Andromeda stellar features. *The Astrophysical Journal*, 793(1), 62, 2014.
<http://iopscience.iop.org/article/10.1088/0004-637X/793/1/62/meta>