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Do You Have What It Takes to Be an Astrophysicist?

<interview>

Interviewer: We're here today with Dr. Lauren Anguisaca Levine, one of the top astrophysicists in the world. Dr. Levine, what does it take to become an astrophysicist?

Levine: The most important trait of a young person who becomes an astrophysicist is curiosity. There are many basic questions about the cosmos that we're on the brink of answering. For example, 85% of the gravity in the universe comes from a source we haven't found yet. What is this "dark matter"? Will the universe expand forever, or will it collapse? Does life exist beyond Earth? What happened to the water that used to be on Mars? The more places we explore, the more questions like these we'll have. Also, the universe offers so many beautiful things to study, such as gas clouds that form stars, and dust from asteroids that collide and pulverize each other.

Interviewer: What changes have taken place in the field of astrophysics?

Levine: Today, science possesses a larger repertoire of tools to study key questions about the universe than ever before. There are X-ray telescopes, microwave telescopes, and gamma ray telescopes that can detect a vast spectrum of waves, going far beyond visible light, and that enable us to gather empirical data about the far edges of the known universe, and even about the distant past, when the universe first formed.



Interviewer: Tell us more about how to become an astrophysicist and what it's like to be one.

Levine: Most important is to get a good science education in high school and college, and then in graduate school. Astronomy and astrophysics are virtually the same field today, by the way. Most astrophysicists have advanced degrees. To get a doctoral degree, you need to do original research on a scientific thesis you have developed. Often, people with doctoral degrees take jobs in academia as professors. However, there are good jobs in labs and observatories, at museums, and with NASA or private research companies. And now, the ratio of women to men astrophysicists is changing. As a college teacher, I prepare a different lecture for each of my classes. I also do my own research in which I code computer programs to create models of cosmic events. I belong to a chapter of the American Astronomical Society, which gives me the chance to share knowledge with other scientists. I work hard at doing something I love, and I think I have the coolest job in the world.

Interviewer: It sure sounds like it! Now I want to become an astrophysicist!

Levine: We need good interviewers, too. The key to any vocation is to find what you love to do and figure out how to keep doing it.