

Careers in Astronomy

Juhan Frank

PhD 1978

At LSU since 1990



What skills do astronomers need?

Astronomers need to be good at physics and math; that's what they do! Don't fall into the trap of thinking that astronomy is one of the "easier" sciences! Astronomers work a lot with computers so good computer and programming skills are helpful. Some astronomers build their own instruments, so they learn about electronics, materials fabrication, and machining, and other skills.

Astronomers need good teaching skills as well, since they teach as much as they learn. They also need good writing skills so they can write grant proposals to get money and telescope time for their projects, and they share their research by writing articles for journals. They must have good communications skills as well. Very few papers in journals have just one author, since astronomers generally work in teams with various colleagues, so they need to be able to share information and get along with different people.

<http://curious.astro.cornell.edu/>

Curious About Astronomy?

ASK AN ASTRONOMER

What are the different kinds of astronomers and what do they do?

There are a couple different ways to classify astronomy jobs. The simplest is "observationalist" or "theorist". Observationalists take data with telescopes or spacecraft and then explain what it means. Theorists use physics to make computer models or simulations of things in the universe. However, many times this isn't a clear distinction since observationalists use physics theories to explain their data, and theorist models have to match observations.

Another way to classify astronomers is by subject specialty. For example, I'm a planetary scientist; I study planets and moons. Other astronomers include stellar astronomers (study stars), solar astronomers (the sun), galactic astronomers (study the galaxy), extragalactic astronomers (who study all different galaxies and the structure of the universe) or cosmologists (study the origin and evolution of the universe). Your specialty can also be in the use of a specific telescope type, for example, there are radio astronomers who study many different objects with radio telescopes. There are also instrumentationalists who specialize in building new equipment. Sometimes you'll be multiple things, like an extragalactic astronomer and cosmologist, or a planetary scientist who builds new instruments. There aren't really clear-cut distinctions here either, but these kinds of classifications are generally what astronomers will respond with when you ask them "What kind of astronomer are you?"



If I became an astronomer, what kind of a job would I get?

After getting their doctoral degree, most astronomers take a number of short term jobs called "postdocs" which last a two years or so each. During this time, they're doing research and publishing papers to establish themselves. After some number of postdocs, they can then find a position on the faculty of a college or university, where they teach and do research, or they can get a position at a research institution. I've also known a couple of PhD's who got faculty positions right out of graduate school.

Curious About Astronomy?

ASK AN ASTRONOMER

What companies or businesses can astronomers work for?

Astronomers usually are employed by colleges, universities or government research organizations. Not too many work for companies or businesses because astronomy isn't really a science that has a lot of practical applications that you can make money off of! However, the most likely field in which you would find astronomers working for a company would be in the area of telescope or instrument design and construction. An example would be [Malin Space Science Systems](#), a company run by an astronomer named Michael Malin which builds instruments for unmanned space missions, such as the recent [Mars Global Surveyor](#) satellite.

Steve Colbert becomes an Astrophysicist



<http://asymptotia.com/2008/02/18/simple-steps-to-becoming-an-astrophysicist/>

Careers in Astronomy Brochure

A New Universe to Explore: Careers in Astronomy

- [Introduction - A New Universe to Explore](#)
- [Preparation for a Career in Astronomy](#)
- [High School](#)
- [College](#)
- [Graduate School](#)
- [Where Astronomers Work](#)
- [Employment Potential](#)
- [Where the Jobs Are](#)
- [National Observatories and Government Laboratories](#)
- [Business and Private Industry](#)
- [Other Related Jobs](#)
- [Astronomical Organizations and Resources](#)

Printed copies of this career brochure are no longer available. This item is currently out of print. We do not plan to reprint it until a revision is completed. Interested parties may download this online Career Brochure and reproduce as many copies as desired.

Menu

[Education Home](#)

[Education Office](#)

[Education Projects](#)

[Education Resources](#)

[Resources for Educators](#)

[Student Resources](#)

[Current Events](#)

[General Astronomy](#)

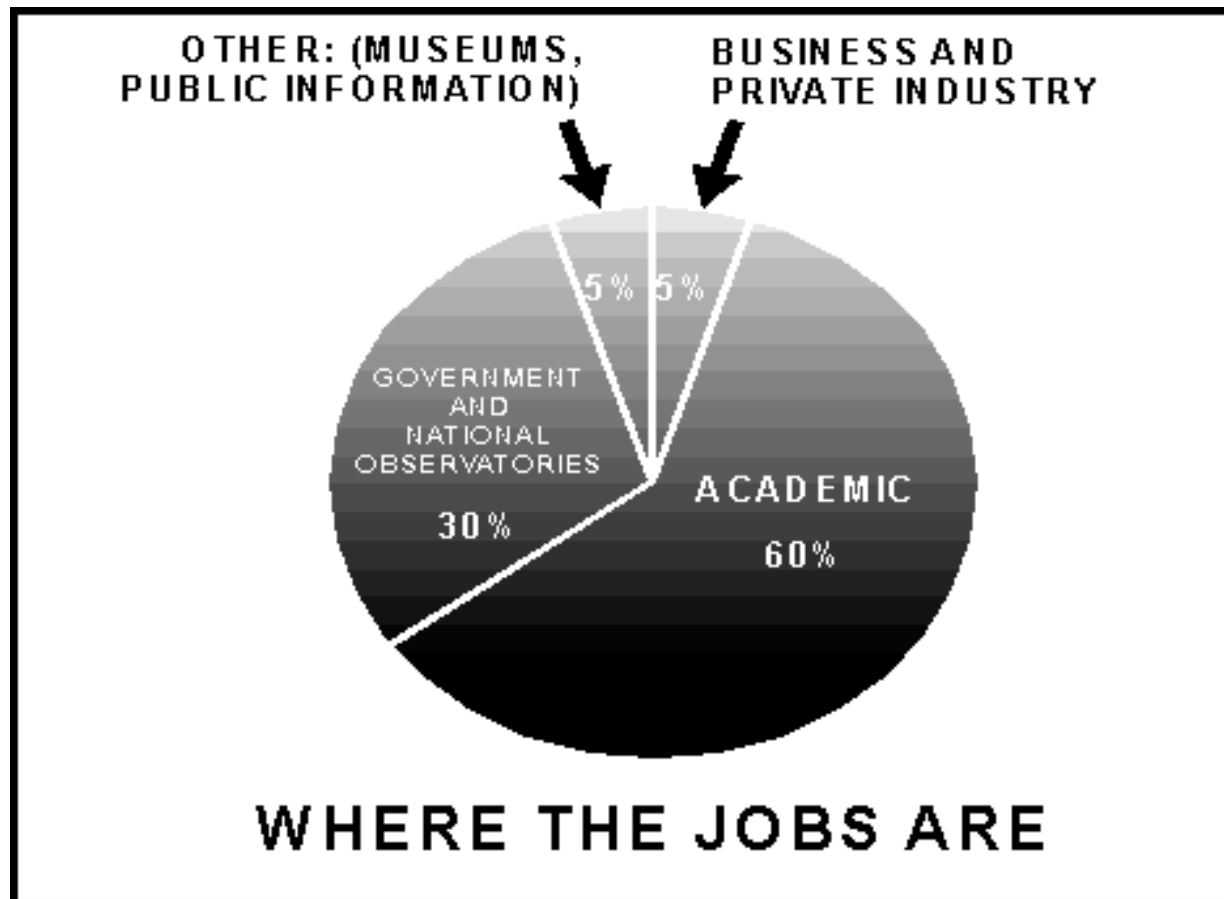
[Harlow Shapley Visiting
Lectureship Program](#)

[Links](#)

<http://www.aas.org/education/careers.php>

Careers in Astronomy

<http://www.aas.org/education/careers.php>



Sten Odenwald's Web Site

<http://www.astronomycafe.net/>



A Guide Book to Astronomy

Written by Sten Odenwald

Copyright (C) 1995

At this web page, you will learn a little about how astronomers make their discoveries. You will also learn a little about why some people become astronomers. More importantly, you will get a bird's eye view to how at least one astronomer [...Me!] arrived at his profession from childhood. If you are in a hurry, you can also read my answers to 103 really good questions at [Ask the Astronomer-Career FAQs](#)