



Careers in Astronomy

It is often said that astronomy is the oldest science, but in many respects it is also the newest science. Year after year discoveries and new insights remake and revise our perspective of the universe. In the past two decades alone astronomy has experienced a flurry of discoveries unprecedented in history. Many of these discoveries sound more like science fiction than science fact: light echoes around exploding stars; "great walls" of galaxies; voids in space; cosmic jets; and gravitational lenses. Such discoveries not only reveal a universe richer and more varied than had been suspected by previous generations, they pose bold, new challenges for scientists.

Astronomers don't have laboratories like chemists, biologists, or paleontologists. Their laboratories lie millions and even billions of light-years away. Most of the time, astronomers derive information from the analysis of the light or the motion of celestial bodies, a process that, to the uninitiated, may seem more like sorcery than science. Astronomers must also apply equal measures of analytic thinking and imagination, logic and intuition, to answer the most fundamental questions about the cosmos:

- What are stars and planets, and how did they evolve?
- Does life exist among the stars?
- How did the Universe get here? How will it end?

As science professions go, astronomy is a relatively small field with about 6,000 professional astronomers in North America. Because of its size, astronomers get to collaborate with many colleagues across the U.S. and around the world. On the other hand, there is a small turnover of positions each year and, therefore, strong competition for positions. In such a small and popular field, only those with quality education, ability, and passion for the subject are likely to find a permanent position. Most of the students planning to become astronomers, after completing their high school and college education, continue in graduate school to receive a Ph.D. Astronomy training, however, emphasizes a remarkably broad set of problem-solving skills.

Most professional astronomers are either faculty members at universities and colleges, or affiliated observatories and laboratories. For these astronomers, teaching is their major activity. Observational astronomers spend between 10 and 30 nights per year working at an observatory or getting observations from spacecraft, and spend the rest of their time analyzing the data they have collected. Others, such as theoretical astrophysicists, conduct a great deal of their research using supercomputers. Some astronomers work in business or private industry. Astronomers are generally well versed in instrumentation, spectral observations, and computer applications to unusual problems. Although most astronomers have advanced degrees, people with an undergraduate major in astronomy or physics can find jobs at national laboratories, federal agencies, and sometimes in large astronomy departments at universities. An undergraduate astronomy degree is excellent preparation for science teachers, laboratory technicians, computer programmers, and science journalists.

Magazines - These publications generally provide helpful information on observing the sky as well as the latest news in astronomy.

Odyssey magazine - Cobblestone Publishing
Star Date magazine - Univ. of Texas at Austin McDonald Observatory
Sky and Telescope - Sky Publishing Corp.
Astronomy - Kalmbach Publishing Co.
Mercury - Astronomical Society of the Pacific
Observer's Handbook - Royal Astronomical Society of Canada

