

Careers in Neuroscience / Career Paths: Science Writing

In a nutshell: While the field of science writing has become increasingly competitive over the last few years, there are still opportunities in multiple arenas, including the government, nonprofits, foundations, and working independently as a freelance writer. The key to effective science writing--whether the piece is in print or online--is a passion for science and a commitment to telling compelling stories.

Telling Stories about Science

The role of a science writer is to inform a designated audience--usually either the scientific community or the general public--about the latest research findings. Neuroscientists who go into the field tend to focus on brain research--their passion and area of expertise. They do not, however, have to stay in this discipline. They can choose to branch out and write about a related area such as mental health or a discipline far afield like astronomy or climate change. The beauty of science writing is the range of possibilities open to inquisitive writers.

In addition, there are opportunities in a variety of venues. Regional and national newspapers usually have at least one science reporter on staff, although these jobs are becoming harder to find as the number of newspapers has declined. Magazines are another option for science writers, but these jobs are also becoming increasingly difficult to find. The good news is that while print outlets are shrinking, the online market has grown. There are many online-only science news outlets and blogs. Organizations in other sectors, including the government, nonprofit organizations, and foundations, also need writers, as do radio and television outlets. While the field has become increasingly competitive, there are still opportunities for skilled science writers, especially those with advanced science degrees and experience in online publishing.

Need for Science Literacy Increasingly Important

As scientific knowledge advances, the public is being asked to weigh in about cutting-edge research. From the future of stem cell research to the role of animals in research, the frameworks and rules governing scientific research require engaging an informed public in inclusive public policy dialogue. What's more, neurological disorders affect vast numbers of the population. For example, stroke is the fourth leading cause of death in the United States, and as many as 5.3 million Americans have Alzheimer's disease. By 2050, that number is expected to increase nearly three-fold to 14 million.

Science news reporting is a way to inform citizens about the importance of continued public investment and participation in research. Comprehensive news reporting helps people link research results to the funding (often from the federal government or nonprofit agencies) that

made the research possible. In addition, through science reporting, people can learn about clinical trials--vital to testing new therapies and bringing them to market--and consider volunteering for those studies if appropriate.

Work Description

Science writers work in a variety of settings, and each has its own type of projects and writing. Generally, the job of a science journalist is to report on current stories of interest to a wide audience. Science journalists often operate on a 24/7 news cycle. They typically have access to non-public (embargoed) information about forthcoming scientific papers. This "sneak peak" gives writers time to read the paper, conduct background research, interview the authors and other experts, and write a story for release at the same time that the paper is published.

Feature stories are not as tied to the news cycle. They tend to provide a longer, more in-depth look at a field of research. These stories can run the gamut from clinical trials on drugs for Alzheimer's disease to sports-related head injuries to therapies for treating mental illness. Because there is a good chance the story will be posted online, the writer needs to think about how to make the story interesting and accessible in this format; for example, the story could be enhanced with an online video or slideshow.

Writers in other settings, such as a public affairs office for the government or a nonprofit organization, have a different set of responsibilities. Often, one of their main tasks is to write press releases to inform journalists about research that their organizations helped support or conduct. Press releases are typically distributed under embargo a few days in advance of a paper or other public announcement about the findings.

Public information officers (PIOs) also interact with the press and set up appointments and phone meetings between reporters and scientists. They typically have other assignments, such as writing for the organization's newsletter or preparing fact sheets for the public.

Both journalists and PIOs may be sent to cover scientific meetings and conferences. Most major news outlets and organizations have a presence at the SfN and AAAS Annual Meeting and conferences held by other professional organizations.

With the decline in the number of news outlets, many science writers are building careers as freelance writers. This option offers flexibility and variety in assignments, but it also requires that writers know how to juggle different kinds of assignments. For example, they must be aware of emerging stories and take the initiative to pitch their ideas to publications; be willing to take on a range of projects, some more desirable than others; and understand that their income will result from their different endeavors. For example, a freelance science writer may

have a deadline for a magazine piece while also accepting an assignment to take notes at a meeting or write the annual report for an organization.

As social media continues to gain traction, writers need to understand how to use different platforms. They may be asked to tweet about an upcoming story or post a link on Facebook. Readers may pick up on the story and post a comment on Facebook or mention the topic in a blog. The synergy among these different media is growing, so all writers need to think about how to leverage them to increase readership.

Place(s) of Employment

Strong science writers are needed in many different kinds of venues. News outlets such as newspapers, magazines, and news websites have positions for a small number of science writers. These settings tend to be fairly flexible, so writers may be able to work at home on occasion. As long as the writer has a computer, a phone, and an Internet connection, he or she can do the work from home or from the road. Writers employed by the federal government or a nonprofit usually work in the office, although telecommuting is becoming more common. These jobs involve more interaction with colleagues, the press, and the general public. In fact, some days, the focus may move completely away from writing. Responding to emails, setting up appointments for the press to meet with scientists, and attending staff meetings can take up the day.

Freelance science writers usually work in their home offices. Along with writing, their day is spent pitching story ideas to news outlets, searching for new work opportunities, and calling or emailing prospective clients. Freelance writers also need to tend to the business side of the profession. This includes billing clients, making sure that contracts for new clients are in order, and keeping track of tax responsibilities.

Personal Characteristics

Neuroscientists working as science writers value communication and are committed to sharing their interest in science with others. They must be organized and comfortable moving from one project to another. Not only must science writers have facility writing, they also must be adept at communicating in person, by email, and over the phone.

Different kinds of writers need different kinds of skills. Both journalists (staff and freelance) and PIOs need strong skills in interviewing and writing. For journalists on a 24/7 news cycle, the ability to write quickly, without errors, is essential. Being able to switch focus from one topic to the next quickly is also an important skill. PIOs may have more time to research and write up a given story, but they may have to factor in a more complex review and editing process. At some organizations, the review process can involve multiple steps and editors, which means that in

addition to time, PIOs often need strong interpersonal skills and the ability to receive and incorporate feedback. Freelancers often have their work reviewed by multiple staff members and editors, so they, too, must be prepared for criticism and often extensive revisions.

Education/Training

The amount of specialized neuroscience education individuals attain depends somewhat on when they decided to pursue science writing. If students make the decision after completing their undergraduate degree, they may decide to go straight to science writing programs instead. If they don't make the switch until the graduate school years, they will likely complete their PhD and forgo postdoctoral training. At this point, the scientist may launch his/her career by looking for a writing program or fellowship geared specifically for PhDs who want to become science writers. Various institutions like the University of California-Santa Cruz, New York University, Johns Hopkins University, and MIT have excellent year-long writing programs, culminating in an internship at a news outlet in the U.S. or abroad.

Another possibility is to look for a fellowship. The American Association for the Advancement of Science (AAAS) offers a 10-week Mass Media Fellowship in Science and Engineering. This program helps recipients find an internship, which gives them hands-on experience in the field and an opportunity to build up a library of clips. The Santa Fe Summer Writing Workshop serves a similar function, but is much shorter.

Career Trajectories

A career in science writing may begin with an internship, perhaps as part of a program or a fellowship. Internships can be very valuable because they provide the new writer with experience working closely with an editor and clips--evidence of writing ability. With clips in hand, it is possible to secure a position; however, it may not be for a high-profile magazine or newspaper. Instead, many writers start out at nonprofits or associations. Another way to gain writing experience is through blogging. Anyone can start a blog and focusing on a scientist's own research is a natural fit. From there, the new writer can progress to writing about a meeting, a colleague's research, or even an individual's own thoughts about research in different areas of science, policy developments, or trends in science, technology, engineering, and mathematics (STEM) education.

In general, it is a little easier to break into the field starting at a nonprofit organization or trade association related to the sciences. In such settings, writers may start out doing research, writing headlines, posting stories online, and doing photo searches. With more experience, the individual becomes better positioned to do more writing.

Science writing tends to be a field where mobility is possible. As a writer accumulates more clips, they have a better chance of landing a job with a well-known newspaper or magazine. Similarly, a seasoned writer can move to another nonprofit or association at a higher level. But if the individual wants to continue writing instead of moving into management, then a senior writer position is the top of the line.

Employment Outlook

According to the Bureau of Labor Statistics, growth in this field is at about 17%. Writers can look at multiple venues for opportunities; in addition to newspapers and magazines, nonprofit organizations, professional organizations, academic institutions, and foundations all have a need for competent writers. More and more writers are building their own career as a freelance writer. With hard work and perseverance, prospective writers can find opportunities. Writers should also consider relocating or looking overseas.

Salary Information

The salaries for writing jobs are modest but comparable to academia. According to the Bureau of Labor Statistics, the median salary in 2010 was about \$63,000. Entry-level positions tend to start in the mid-30,000's. Experienced professionals earn about \$100,000. Writers with advanced degrees tend to earn higher salaries.

What You Can Do Now

Undergraduate Student: An interest in editorial work can emerge even before the undergraduate years. Becoming involved in student publications is a good way to learn more about the writing and editorial process. Securing an internship that involves writing, perhaps at a nonprofit or professional organization, helps build a student's resume and increases exposure to the field.

Graduate Student: Volunteering for school publications or at the university public information office is a good way to gain writing experience in graduate school. Serving on committees and taking on leadership roles at school offer rising scientists exposure to writing, as do summer writing positions. Attending the SfN annual meeting is another way to meet people who can help you move onto this career path. There also are several writing organizations with a focus on science. These include the National Association of Science Writers and the American Medical Writers Association. Both offer student memberships, access to job banks, and numerous opportunities to attend workshops and conferences to network and meet people that can serve as mentors and professional contacts. SfN offers two competitive science writing fellowships that provide support to attend the annual meeting and access to a science writing mentor

during the meeting. This would also be the right time to apply for a AAAS Mass Media Fellowship.

Early Career: After completing graduate school, one way to find out about this profession is by getting a job in the field. If an individual would like more training, there are continuing education courses as well as full-blown writing programs and fellowships. Work in this area requires a strong foundation of clear and concise writing and communications skills, especially translating scientific information for non-scientific audiences. With those skills, the specifics of the daily activities can be learned over time through on-the-job training, with the opportunity for growth given strong performance.

Mid-Career: At this stage, a writer has probably moved up the ranks and become a senior writer. Writers at this level have much more control over what they write. Editors are less apt to assign stories and more willing to leave story development to the writer. This is also a time when seasoned professionals can think about giving back by working on different committees within SfN, as well as at other professional organizations. At this stage in their career, science writers may consider writing a book about a specific topic. Several science writers have written books about technical topics that have been well received by the general public.

Retirees: The advantage of a career in writing is that it can continue throughout life. Even after retiring, it is always possible to pick up freelance jobs or volunteer to work with young writers, perhaps at your former place of work. Writing is a skill that is always needed, so it is possible to keep a hand in it indefinitely.

For More Information

The following websites have valuable information:

Society for Neuroscience: www.sfn.org

Bureau of Labor Statistics: <http://www.bls.gov/ooh/media-and-communication/technical-writers.htm#tab-4>

National Association of Science Writers: www.nasw.org

American Medical Writers Association: www.amwa.org

University of California-Santa Cruz Science Communication Program: <http://scicom.ucsc.edu/about/index.html>

Johns Hopkins Arts & Sciences: The Writing Seminars: <http://writingseminars.jhu.edu/graduate/ma-science-writing.html>

New York University Arthur L. Carter Journalism Institute: Science, Health and Environmental Reporting: <http://journalism.nyu.edu/graduate/courses-of-study/science-health-and-environmental-reporting/>

MIT Graduate Program in Science Writing: <http://sciwrite.mit.edu/>

Santa Fe Science Writing Workshop: <http://sciwrite.org/sciwrite/sciwrite.html>