

Career in focus: Science Writing

In this issue, CNSPY Member Thalyana Smith-Vikos discusses her personal journey in exploring careers geared towards science communication, scientific editing and publishing and presents answers to the most frequently asked questions about careers in Science Writing/Editing. Thalyana is a Ph.D. student in the Molecular, Cellular and Developmental Biology Department. Thalyana also interviewed Dr. Laura DeMare, Assistant Editor at Genome Research, a monthly peer-reviewed journal, and CNSPY career mentor, to bring you first-hand insights. Dr. DeMare transitioned to a career in scientific publishing after completing a Ph.D. in Genetics at Yale in May 2013.

Once I had decided not to pursue a career in academia, I began learning about various “alternative” career opportunities to see what might suit my interests. By simply reading a description of what a science writer does, I came to understand that this career was exactly what I was looking for and encompassed everything I enjoyed about academia, while leaving out everything that I didn’t enjoy.

I realized that I enjoyed writing and reviewing manuscripts, research highlights, grant proposals, and fellowship applications, as well as preparing posters and presentations and attending conferences, even though I didn’t enjoy doing experiments. I also realized that I was extremely interested in learning about the latest research being published and how it gets disseminated to different audiences, instead of sitting at the bench and doing the research myself. Low and behold, a science writer has the privilege of writing about all the latest research developments every single day!

I followed up with my newfound interest in science writing by posing questions on Linked-In groups like Science Careers, NYAS Science Alliance and Yale Grad School Alumni, as well as more dedicated science writing groups. Not sure of the types of responses I would get, I simply inquired about what others knew about science writing, how to break into the field, and what kinds of activities I could participate in during graduate school to get more experience.

I conducted informational interviews with professionals on Linked-In, CNSPY career mentors, and recent alumni from my PhD program. I looked for patterns in the advice people gave: all of the alumni I spoke with said that they gained extra writing and editing experience by joining the Yale Journal of Biology and Medicine and editing manuscripts for an organization called American Journal Experts, which I also ended up doing. Almost everyone suggested that I gain credibility as a writer by pitching stories to any organization that would accept freelance articles. I had to make a name for myself as a serious writer, not just a graduate student who thinks she could be a good writer.

Many people I spoke with suggested starting locally and contacting the public affairs office at my university; I followed up on this advice by contacting the science editors at Yale News and Yale Daily News. They were very receptive to my interest in contributing articles, as long as I already had story ideas and wouldn’t mind if my articles were edited for content. I also started my own blog, while keeping an eye out for any organizations looking for bloggers.

I was also advised to widen my scope to include careers in medical writing for pharmaceutical companies or medical communications agency, or scientific editing for journals and publishers. For more information on all of the advice I received from my informational interviews, check out my Career FAQs post on science writing and editing on the CNSPY website!

While it is important to look for any opportunity to write, it is equally important to focus on paid opportunities once you have a few articles in your portfolio. For example, after attending a CNSPY panel discussion on careers in science writing and editing, I spoke with the editor-in-chief of Genetic Engineering & Biotechnology News (GEN). When I indicated my interest in writing for GEN, I learned that not only would I be told upfront how much I would get paid for an article, but that I would be invited to keep writing for GEN on a regular basis. I decided to focus almost exclusively on writing different articles for GEN.

All in all, I have thoroughly enjoyed exploring opportunities in science writing, and I encourage others to consider following this career path!

- Thalyana Smith-Vikos

Career FAQs

Why switch?

Careers focused on writing and editing are suitable for those who enjoy writing about and discussing the latest scientific breakthroughs more than working at the bench. Science writers converse with scientists from numerous institutions and communicate their findings to the public or to a targeted audience, scientific editors are usually the first to read about the most exciting research, and medical writers report on the latest developments in pharmaceuticals. Other options include science communication and journalism.

Many of the skills acquired during graduate training are highly transferrable: writing clearly and concisely for a specific audience, data analysis, logical thinking, flexibility, multitasking, meeting deadlines, and intellectual curiosity. Indeed, a doctoral degree and sometimes post-doctoral experience, is a pre-requisite for editing positions.

What are some positions and job responsibilities?

As a medical writer, you may be an in-house writer at a pharmaceutical company. Responsibilities may include summarizing lengthy documents, and preparing reports for the management and regulatory documents required by the FDA.

Medical communications agencies where clients are physicians or pharmaceutical companies have several options requiring varied expertise including but not limited to:

- Educational initiatives: preparing posters, slide decks, monographs, etc. (usually for physicians to present at conferences).
- Publication planning: writing journal articles and grant applications, and preparing continuing medical education courses for clinical scientists and physicians.
- Marketing/advertising: writing feature articles, press releases, promotional/marketing material, patient education material, and multimedia presentations for the public or for investors.

Professional journal editors decide which articles will be peer reviewed, and are responsible for the entire process for those articles. They also attend several conferences each year to stay abreast of the latest developments in their field.

Managers in publishing companies are responsible for all aspects of running one or more journals. They hire and manage staff, including editors, content specialists, production team, etc., monitor journal metrics to evaluate the success of a particular journal, start new journals in upcoming fields, and organize workshops or conferences.

Freelance writers have the freedom to select assignments based on personal interest and write for numerous outlets including science journals, news (print, online, TV, radio, webcast, etc.), institutional documents, trade publications and magazines (Scientific American, National Geographic, Discover, etc.), libraries, and educational initiatives. Freelance writers may also assist scientists in writing up their papers for peer-reviewed publication.

Communications or Public Affairs offices of universities, research institutes, and private companies in a variety of industries also offer positions that have a significant writing component although they are likely to include other responsibilities. In-house publications, press releases, promotional or advertising material are some examples of writing assignments in such positions.

Where will you work?

Depending on one's area of interest, positions are available in universities, research institutes, private companies, scientific journals, publishing houses, medical writing companies, pharmaceutical companies and news and media outlets. As such, suitable positions may be available in any state or country. Freelance writers have the additional freedom of choosing their own offices although many professionals are now afforded the flexibility to work from home.

How to prepare for the transition?

- Join professional societies, such as National Association of Science Writers, Science Writers in New York, and American Medical Writers Association (AMWA), and attend their regional and national meetings. AMWA in particular, offers courses and certificate programs for varying degrees of proficiency in medical writing.
- Become a contract editor for American Journal Experts (Ivy-league affiliates, PhD not required) or Bioscience Writers (PhD required). You will be editing manuscripts for content and clarity, which can come in handy for any writing tests you may need to take when interviewing for editor or medical writing positions.
- Write as much as possible while in the lab, for example, write manuscripts, edit labmates' manuscripts, assist your PI on grant applications and peer review requests. Present your research as often as you can, be it in writing, as posters or talks.
- Stay abreast of science publishing issues, for example, open access, transparency in the review process, impact factor changes/criticisms, and frequency of retractions.
- Maintain a wide interest in science within and outside your area of expertise and remain up-to-date on developments.

While you are at Yale

- For those primarily interested in medical writing, CNSPY offers a 3-month internship at IMsci, a medical communications agency in Stamford, CT.
- Join the editorial board, write articles, or become a peer reviewer for the Yale Journal of Biology and Medicine.
- Work at the Graduate Writing Center.
- Write articles for Yale Daily News (undergraduate-run newspaper), Yale News (Office of Public Affairs and Communications), the CNSPY newsletter, blog, etc. to beef up your writing portfolio. Look for additional opportunities to publish your writing in print or online.
- Start your own blog on a topic of interest.
- Participate in a workshop taught by Carl Zimmer, "Science Writing for the Lay Reader," offered every January by the Department of Ecology and Evolutionary Biology. As of Fall 2013, Robert Bazell, former Chief Science and Health Correspondent for NBC News, will be adjunct faculty in the Department of Molecular, Cellular and Developmental Biology. Look out for any science communications courses he may be offering.

Interview with Dr. Laura DeMare, Assistant Editor, Genome Research

How did you become interested in a career in editing?

As a graduate student, I loved genomics and the research I was doing, but I was also curious about the bigger picture. By chance, I stumbled into a meeting of the student-run journal, *Yale Journal of Biology and Medicine*, and after taking part for several weeks, I realized that I enjoyed reading manuscripts totally outside of genomics – medical case reports, biomedical engineering reviews, research on immunodeficient patients, etc. This surprised me. Eventually I took on an editor position at *YJBM*. The most rewarding part was helping the authors, many of whom were students and writing their first manuscripts, improve their work.

What are your responsibilities as an assistant editor?

I am responsible for reading newly submitted papers, sending papers out for peer review, and liaising between authors and reviewers. I also have other non-editorial duties, such as updating social media, representing the Journal at conferences, and generating publicity by writing press releases of newly published papers. On a typical day, I spend a significant amount of time on email, reading new and revised papers, and going over reviewer comments and author responses. If a print issue is due out soon, I also spend time proofreading manuscripts to ensure they follow our Journal's data access and nomenclature guidelines. I also go through the Methods sections of manuscripts to see if there might be companies we can solicit for advertising in the Journal.

Since we are a smaller, non-profit journal with fewer staff, I get to do many tasks that I might not get to do at a larger publishing house. The editorial structure at every journal is different, but at *Genome Research* we have two full-time professional editors (including me) and six Academic Editors, who are practicing scientists. We meet weekly to discuss new papers, go over papers currently in the review process, and more generally, forge the direction for the Journal. In addition to editorial duties, I also am involved in marketing, advertising, social media, and the production of the Journal.

How many conferences do you attend?

I have only worked at *Genome Research* for 5 months, but I've already been to more conferences than in 6 years of graduate school. I go to approximately a half dozen conferences per year, but some of them are local meetings at Cold Spring Harbor Laboratory. I actually enjoy conferences much more as an editor, because I don't have to worry about competitors scooping my work! I also find more of the talks interesting, since I now think about science much more broadly.

When did you start applying for editing jobs?

I started looking for jobs my last year in graduate school. The timing is tricky, because like most jobs outside of academia, publishers want you to start immediately. I was lucky in that I found a job posting online (at Indeed.com) around the end of December, and was interviewed in March. I got the job about a week after the interview; luckily, they let me start after graduating in May.

What pros or cons about the job stand out to you?

After spending so much time developing a very specialized skill set and becoming an expert in a particular field, it is difficult to let that go. On the other hand, I am much more widely read, and I appreciate many more areas of science than I did as a graduate student. I love how I am still connected to science and get to meet and talk to interesting scientists, but I am not directly involved in the research.

Can you describe the interview process?

Before I was invited for an interview, I was given 4 unpublished manuscripts to provide comments on. They ranged from methods papers to primary research, and the Editor wanted to know the strengths and weaknesses of each paper, and whether they should be sent for peer review. I was given one week and this whole process happened over email. I would say this sort of exercise is common at other journals, although the process may be different. The manuscripts may be given to you during an in-person interview, for instance, and then you are given a certain amount of time to read them over and give your comments.

Afterwards, I was invited for an interview. I spent half a day at Cold Spring Harbor Laboratory Press, the publisher of *Genome Research*, and met with several people within the organization. In addition to my scientific background, they were interested in my knowledge of different aspects of scholarly publishing, such as open access and Creative Commons licensing. Luckily, I had done my homework.

What did you highlight on your CV when applying for jobs?

For a job in scientific publishing, like many other non-academic jobs, it is important to show an interest in fields outside of your own narrow research topic. It does help to have some editorial experience. For example, I was part of the *Yale Journal of Biology and Medicine*, both as part of the editorial board and as a special issues editor. Also, I would highlight your scientific publications, specifically ones that you have published in that particular journal or in that field.

CNSPY Leadership Team

Co-founders - Thihan Paddukavidana, Rebecca Brown

Executive Board - Shalini Nag(President), Jacqueline Heiss, Paul Cao, Meghan Kerrisk, Yan Gao, Joydeep Banerjee, Lu Jin, Yixiao Zou, Tenaya Vallery

Project Managers - Tiffany Tsang, Anna Chase, Sofia Espinoza, Deborah Ayeni, Kent Riley, Angela Di Fulvio

To learn more about the CNSPY leadership team, visit our [website](#).