Science Writing: What It’s Like, What It Takes, & Why I Love It

Christine Herman, Ph.D.
Freelance Health & Science Journalist
How I Got Into Science Writing

Science in practice

Thought I’d pursue academia

Got frustrated with research

Loved talking about my research, not doing it

Sought out opportunities to write – discovered I loved it

Science on paper
Would I prefer to know a lot about a few things, or a little about a lot of things?
My path into science writing...

2007: began Ph.D. studies
My path into science writing...

Falling Out of Love with Research

Years in grad school
My path into science writing...

2010 (4th year Ph.D. student):
Took a journalism class
Wrote for the Daily Illini – Science feature stories
2011 (4th year Ph.D. student):
Began blogging for Chemical & Engineering News – exploring nontraditional careers
My path into science writing...

2011 (4\textsuperscript{th} year Ph.D. student):
Science writing internship at Fermilab – took 3-month break from grad school
My path into science writing...

2011 (5th year): Freelance writing for C&EN and the American Chemical Society

2011 (5th year): Came back to the lab, ready for one last push to the Ph.D.
My path into science writing...

in your element

Cool as helium

Owing to peculiar properties, helium has taken both the main and supporting roles in scientific discoveries over the years. Christine Herman explores just what makes it such a cool element.

Entered contests – Nature Chemistry, Dance Your Ph.D.
My path into science writing...

2012 (5th year):
Conference networking pays off – more freelance opportunities

Biotechnology from bench to business
My path into science writing...

2012 (5th year):
Defense and Graduation!

Started journalism school – Fall 2012
My path into science writing...

2012 – 2014:
Juggling journalism school, baby, & freelancing

First experience in radio journalism...
Journalism school highlights:

Reporting and writing

FEEDBACK from professors

Multimedia, graphics photography, web skills

Build portfolio

Discovered AUDIO journalism
My path into science writing...

Summer 2014:
Broadcast journalism internship in Chicago

July - December 2014:
First job! Science writer for the American Oil Chemists’ Society
My path into science writing...

2015 - present:
Baby #2 arrived in January

Back to freelancing...

My first radio story as a freelancer aired last week!
Other ways to combine science & communication

• Scientists who engage with the public:
  – Blogging
  – Outreach
  – Advocacy

• Other sci comm careers:
  – Technical writer
  – Grant writer
  – Journal editor
  – Public information officer
So, what do science writers do?

Communicate: How science works and why it matters

• Audiences:
  – General public
  – Scientists
  – Mixed

• Outlets:
  – Newspapers, magazines, radio, TV, books
  – Websites, blogs, podcasts
  – Universities, federal labs – public relations

Mission: Explain very complicated things with

Maximum simplicity
Maximum accuracy
What’s to love, and not to love

• Likes:
  – Paid to learn about science
  – Flexibility
  – Freedom

• Dislikes:
  – Could make a lot more $ practicing science
  – Working alone (freelance)
How much can you actually make freelancing?

*It depends...*

- Assignments for **trade publications**: ~$1/word
- **PR stories** can pay $1-2/word
- **Stories for general audiences** generally pay less and are more competitive
- **Audio stories** ~$100/min
- **Blog posts** – $10/post, unless you’re really good

*~50% time spent reading, pitching story ideas and managing your business*
What it takes to succeed

• Skills:
  – Curiosity, critical thinking, skepticism
  – Explain complex concepts simply
  – Reporting & writing skills
  – Bonuses: web savvy, multimedia skills
  – Meeting deadlines, time management

• Traits:
  – Handle rejection + critique
  – Deal with financial uncertainty
  – Discipline, flexibility, persistence
It’s a huge responsibility

#1 Present both sides of an issue fairly.

Some scientists say the earth is round. But a guy I know says they’re just a bunch of crackpot liberal elitists. Who’s right? It’s impossible to say.

THE FLAT EARTH DEBATE
THE SCIENCE NEWS CYCLE

Start Here

Your Research
Conclusion: A is correlated with B (p=0.56), given C, assuming D and under E conditions.

Your Grandma

Eventually making it to...

WHAT YOU DON'T KNOW ABOUT "A" ... CAN KILL YOU! MORE AT 11...

A Killer Among Us?? LOCAL EYEWITNESS NEWS

Local Eyewitness News

4 LOCAL EYEWITNESS NEWS

News Wire Organizations

For Immediate Release: Scientists find potential link between A and B (under certain conditions).

...which is then picked up by...

News Wire Organizations

A causes B, say scientists.

Cable News

We saw it on a Blog!
A causes B all the time
What will this mean for Obama?
BREAKING NEWS BREAKING NEWS BREAKING NEWS

International

Scientists out to kill us again

OMG! I knew it!!!
WTH???????

...who are read by...

THE INTERNETS

...then noticed by...

...and caught on...

4 LOCAL EYEWITNESS NEWS

University PR Office
(Yes, you have one)

FOR IMMEDIATE RELEASE: Scientists find potential link between A and B (under certain conditions).

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Journalism: Dying or Just Evolving?

Audiences Turn to Web
Percentage Change in Audience, 2009-2010

<table>
<thead>
<tr>
<th></th>
<th>Online</th>
<th>Local TV</th>
<th>Network TV</th>
<th>Newspapers</th>
<th>Audio</th>
<th>Magazines</th>
<th>Cable TV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>17.1%</td>
<td>-1.5</td>
<td>-3.4</td>
<td>-5.0</td>
<td>-6.0</td>
<td>-8.9</td>
<td>-13.7</td>
</tr>
</tbody>
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Pew Research Center for the People & the Press, Audit Bureau of Circulations.

Staff jobs down, freelance on the rise
Journalism vs. Public Relations

Journalism
• Goal: Balance, let the reader decide
• More competition, less $
• Sometimes crazy hours

Public Relations
• Goal: Give the reader fuzzy feelings about the company
• More jobs, more $

Both: Learn about science, interview experts, write stories
Staff job vs. Freelance

Staff Job
- Tough competition for a limited number of positions
- One publication
- Steady paycheck, benefits
- Set hours, sometimes

Freelance Job
- Live anywhere, work from home – no commute
- Many publications
- Pay fluctuates, no benefits
- Work anytime

Both: Pitch story ideas, interview scientists, meet deadlines
“Don't romanticize freelance writing. Like acting, if you meet Brad Pitt, it seems like a really cool gig. But the actor you really want to talk to is the guy who just delivered your pizza.”

- Karen Heyman, NASW Freelance Discussion List
How to be competitive

• **What matters:**
  – CLIPS – *published work*
  – Writing skills + multimedia
  – Networking to build connections

• **What doesn’t matter:**
  – Research publications*
  – Academic writing

*publications matter if you want to be a journal editor, which is an entirely different field
To go or not to go to J-school?

**Pros**
- Work with experienced journalism professors
- A safe place to make mistakes
- Learn new skills
- Gain credentials, boost your resume

**Cons**
- Delay career start
- Not *necessary*
- Cost

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I highly recommend graduate school as a way to avoid the real world for 2 to 5 additional years.
I had a good experience in grad school (the tough times were character-building...)

I learned a lot: science + how to think, critique, communicate, come up with ideas

While you don’t need a Ph.D. to do science writing, it has only helped me to have one

There is no one way into science writing
General nontraditional career advice

• **Jump in and try stuff** – take risks, find out what you like!

• **Talk to people** – find mentors, join professional societies

• **Knock on doors** – one open door leads to another...

• **Start early, if possible** – ease your transition
  – Gain necessary skills
  – Build connections
Mark your calendars: Friday, April 17, 2015

Public Panel | FREE!
1-2:20 p.m. | Beckman Institute Auditorium
Panel on traditional and alternative science careers

- George Chacko Director of Research Information Analytics, Office of the Vice Chancellor for Research, University of Illinois
- Miriam Goldstein Marine biologist, legislative assistant to Rep. Jackie Speier (D-CA)
- Christine Herman Freelance science journalist
- Patricia Jones Associate Director for Research, Beckman Institute for Advanced Science and Technology
Questions?

• Please contact me if you want to chat more!
  Christine Herman, c.toh.herman@gmail.com

• Great resources:
  – *The Science Writers’ Handbook*
  – *Field Guide for Science Writers*
  – *Nontraditional Careers for Chemists*, by Lisa Balbes