

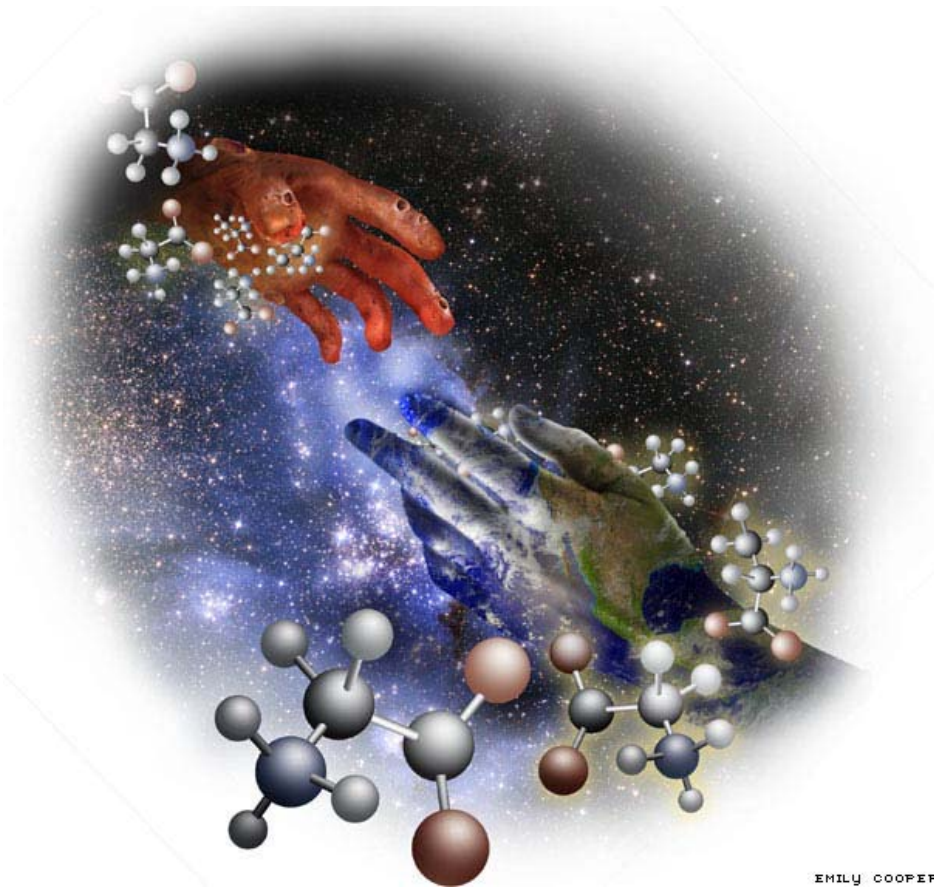
Training Science Writers: The Professional Pipeline in America



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Okinawa Institute of Science and
Technology, 19 March 2015

Science outreach in the U.S.: Universities play a central role



- All universities and research agencies hire science writers
- Media (print, online, broadcast) use stories from these writers
- Public readers also see stories and multimedia from universities

A growing number of science writers in the U.S. are former scientists. We train them how to write about science with accuracy, depth, and style.





My career in science writing

- Bachelor's degree from MIT (physics and astronomy, planetary sciences)
- Science journalism training at UC Santa Cruz
- University science writer at UC Santa Cruz for nine years
- Freelance magazine journalist for ten years
- Director of the Science Communication Program at UC Santa Cruz since 2006
- Ongoing writing in space sciences

Rose Center for Earth and Space / American Museum of Natural History

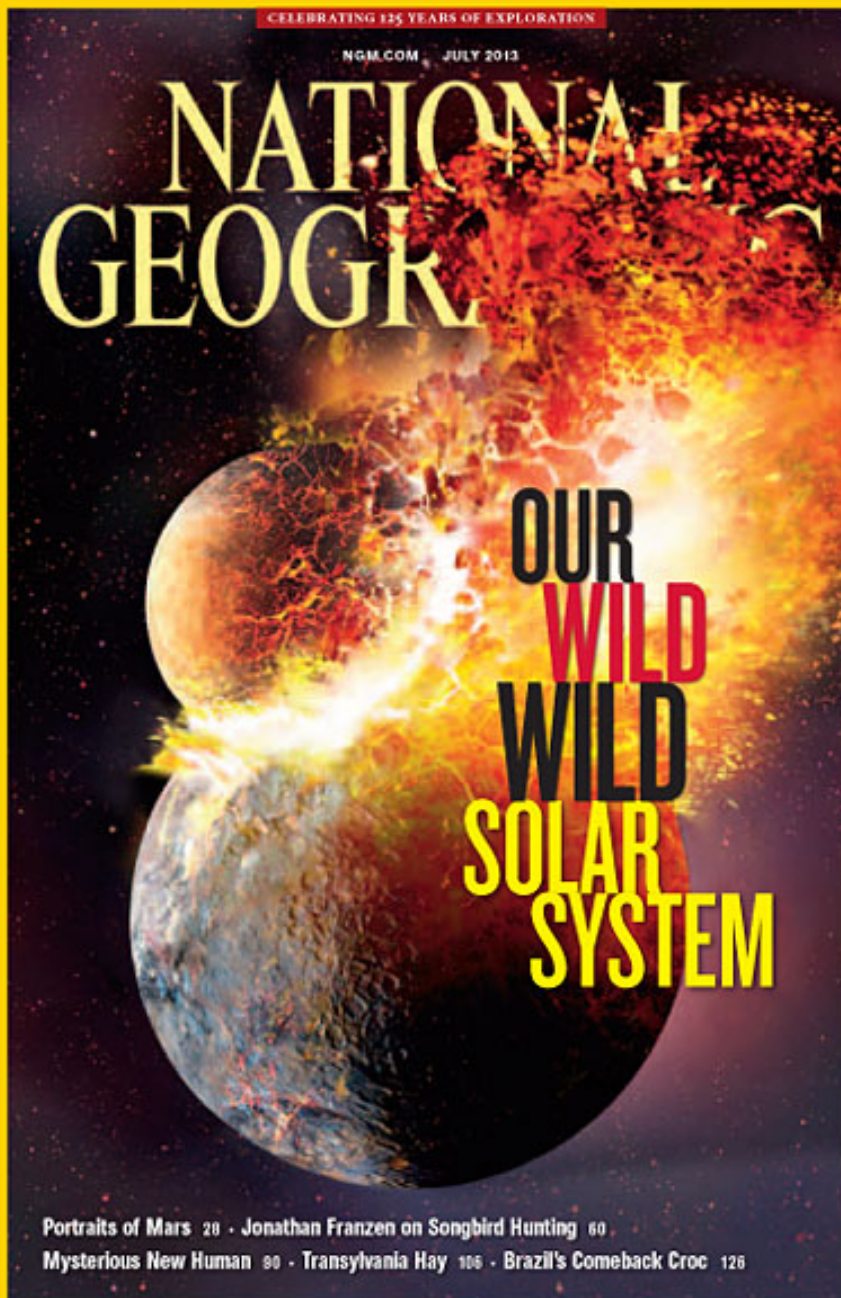


One Universe
At Home in the Cosmos

NEIL DEGRASSE TYSON
CHARLES LIU
ROBERT IRION

***One Universe:
At Home in the
Cosmos***
**(U.S. National
Academy of
Sciences, 2000)**

Coauthored with Neil
deGrasse Tyson of
the American
Museum of Natural
History in New York



National Geographic cover story (July 2013)

The violent evolution
of our solar system:
migration of giant
planets, intense
pummeling of Earth



**“Pluto Wins”
essay on
Slate.com
(February 2014)**

Preview of our first
views of Pluto with
NASA New Horizons
mission, July 2015



How has science writing in the U.S. changed over time?

- Decades ago, general reporters (no science background) covered science and health
- In 1970s and 1980s, stories became more complex: space missions, nuclear energy, biotech, AIDS, climate, environment
- Science magazines and newspaper science sections became popular
- Editors hired specialized writers
- “Science writer” became a viable career



Today, science writing in the U.S. is a major enterprise

- The National Association of Science Writers has about 2,500 members
- Other specialties: Society for Environmental Journalists, Association of Health Care Journalists
- Graduate school programs train journalists specifically to cover science
- Many editors prefer to hire reporters with science degrees (B.S., M.S., Ph.D.)



Training in science writing leads to diverse careers

- **Reporters: Online news, magazines, blogs, radio, newspapers* (*declining in the U.S.)**
- **Institutional writers: University news offices, medical schools, federal labs and agencies**
- **Public education: Museums, aquariums**
- **Popular book authors**
- **Independent freelance writers who cover stories they care about**



Graduate education in science writing: several leading programs

- New York University
- MIT
- Boston University
- Columbia University
- (Imperial College London)
- University of California, Santa Cruz
- Combined, these and other programs train about 100 new science journalists each year

UC Santa Cruz: Banana slugs in the redwoods



UC Santa Cruz campus





Scientists become journalists in the UC Santa Cruz program

- One-year journalism “boot camp”
- Required: degree in science or engineering, plus research experience
- Ten students per year (average age ~30)
- About 75% of students are women
- All lecturers are professional journalists
- Local and national internships throughout the year for real assignments
- Program is in its 34th year



The advantages of having a scientific background

- We understand the *process* of science: research is not a series of “eureka moments”
- We read and scrutinize original papers
- We grasp the uncertainties of results
- We develop an area of specialized coverage: a “beat” drawing from deep knowledge
- The bottom line: Former scientists can write with authority. The best ones also write with style and grace.

Curriculum at UC Santa Cruz





Rigorous coursework in the foundations of science journalism

- Fall quarter: Science news (100-800 words)
- Reporting and writing for newspapers, on fast deadlines
- Writing for the front sections of magazines and science-focused websites
- Covering science talks at conferences
- Writing for science blogs
- Becoming comfortable with social media, especially Twitter



Rigorous coursework in the foundations of science journalism

- Winter quarter: Longer writing formats (1,500-3,000 words)
- Reporting and writing science features for magazines
- Profiles about scientists and their research
- In-depth Q&As – conversations with scientists about their work
- Personal essays: The author's experiences with science. Connect directly with readers.



Rigorous coursework in the foundations of science journalism

- Spring quarter: Advanced reporting and storytelling tools
- Policy and investigative reporting: Stories behind the research (funding, conflicts of interest, ethics, public policy)
- Multimedia presentations: Photography, videos, podcasts, infographics
- Book proposals
- Contracts and negotiations



Throughout the year: Part-time internships with editors

- Real reporting for two days each week
- Daily newspapers (science reporting and general stories)
- University news offices (Stanford News Office, Medical School, Engineering School)
- Local radio stations
- National science news (*Science*, *Nature*, Inside Science News Service)



Final requirement: Full-time summer internship (3-6 months)

- National placement with professional editors
- Media outlets (*Scientific American*, *Science News*, National Public Radio)
- Research universities (UC San Francisco, Princeton, Yale Medical School)
- Federal agencies (NASA, National Institutes of Health, U.S. Department of Energy)
- Scientific societies (American Geophysical Union, American Chemical Society)



Graduates are hired quickly!

Some recent jobs:

- Science reporter, *The New York Times*
- Biomedical reporter, *Science*
- Assoc. editor, *Chemical & Engineering News*
- Communications director, National Institute for Neurological Disorders and Stroke
- Science writer, Cornell University Institute for Plant Sciences
- Exhibit designers, California Academy of Sciences and San Francisco Exploratorium

Professional science writers illuminate the vast seas of science for the rest of us

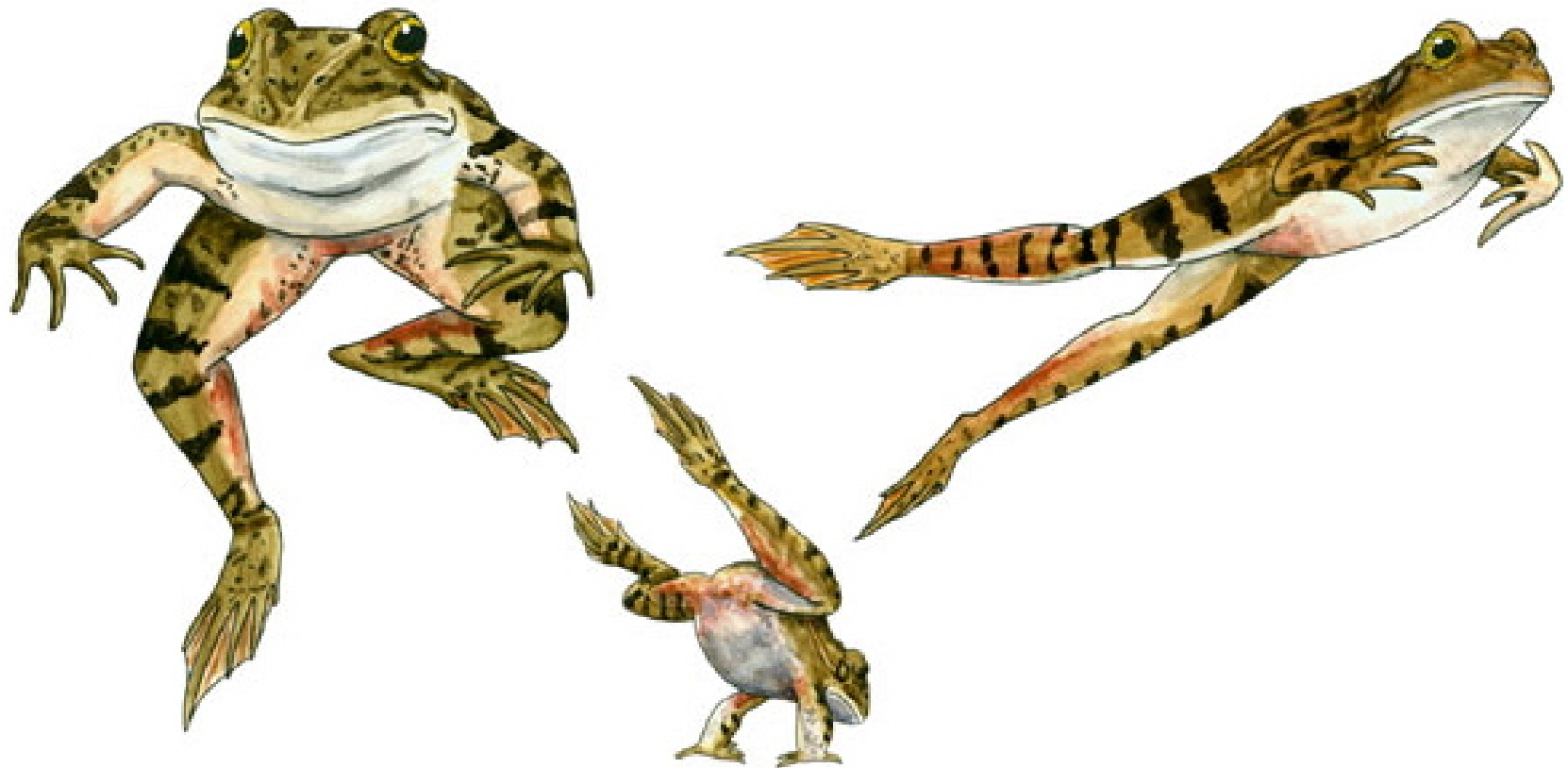


University science writers are essential to the public understanding of science in America



- Trained writers, not academic scientists, know what editors and reporters need for their stories and what readers can understand.
- Without science writers at universities and federal agencies, studies with important impacts for society would remain unknown.

Making the leap into science writing is deeply rewarding for scientists who prefer to interpret research for the public, rather than doing research themselves.



Thank you for this opportunity!
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