

Writing Global Science for International Media
SUMA PS5180, Spring 2016
Time: Tuesdays 6:10-8:00 PM
Location: TBD

Professor: Prof. Claudia Dreifus
Adjunct Professor of International Affairs and Media
Instructor, Sustainability Management
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Brief Description: This is an interdisciplinary workshop for scientists, sustainability professionals, future NGO workers and journalists seeking skills in communicating 21st century global science to the public.

Scientists will be given journalism skills; journalists will learn how to use science as the basis of their story-telling.

Students currently working in the business world or the public sector, will, by doing actual journalism, see what the news looks like from the other side of the desk.

Our standards and methods will, at all times, be those of mainstream journalism.

Course Objectives: The course is designed to give students exercises and real-world experiences in producing feature stories on global science topics.

While most scientists and sustainability professionals have been trained to write in the style of peer-reviewed journals or business publications, we will focus on science journalism, learning how to translate global science into accessible true stories that reach wide audiences.

Science is performed by passionate individuals who use their intelligence and determination to seek answers from nature. By telling their histories and uncovering the drama of discovery, we believe that there are ways for science to be successfully communicated to readers who might otherwise fear it.

Rationale: Currently, there are few comparable courses offered. Traditional science journalism classes have been mostly pegged to future science journalists; but we hope to turn non-journalists into published writers. Our target markets are mainstream media, Internet journals and community publications. Our approach blends science, policy, international affairs and journalism. We will discuss advocacy, too.

And now, with mass media more open than ever to freelance contributions, with new forms of media proliferating in cyberspace and with Internet journalism increasingly open to beginning journalists, we see new opportunities for the scientifically-interested to tell their stories, *if* they have the proper skills. With these new opportunities in mind, we will also be pitching our story-telling to the demands of new media and the Internet.

Ultimately, we hope to show a climatologist how to get their op-ed into the Washington Post and to help an aid worker from Southern Sudan place her first-hand report on desert environments into *MORE* magazine.

We hope that when a sustainability student or manager sets up their own blog, that it will be so literate and interesting that it will draw a substantial readership.

Prerequisites:

The main prerequisites are a desire to write communicatively and a willingness to experiment with popular forms. Because both the TA and the Instructor do individual critiques of students' writing, we ask that participants in this class be willing to follow the edited instructions offered and be open to our notes. This is the way one improves as a writer.

Students who feel uncomfortable with that style of instruction will probably not profit from it and should consider enrolling in a different type of course. Willingness to accept critiques and guidance will be part of the grade.

A fluid knowledge of written English is important, but students who've trained as journalists, scientists or NGO professionals in non-English speaking countries are very welcome. Students in need of additional help should work with tutors at the Writing Center:

writingcenter@columbia.edu and <http://www.college.columbia.edu/core/uwp/writing-center>.

Because we are looking to create interesting non-fiction literature with science at its heart, we seek students with enthusiasm for both science and mass communications.

Students registering for this course should be willing to try to write in a style different from what they may have been trained for; they should also be willing to find their stories through interviews, investigation, and observation.

One gauge for your capacity to do this work: can you write as fast as you think?

Criteria for Grading: It's not easy to quantify a creative endeavor and the instructor reserves the right to make subjective judgments on progress, effort and attitude in determining final grades.

What we look for is talent, skill, originality, resourcefulness, promptness in meeting deadlines, a collegial attitude in terms of class participation—and of course, improvement of skills over a semester. The student who writes well, but who doesn't read and critiques classmates' submissions, will be penalized.

Because we are talking about subjective matters, I prefer not to give a firm numeric weight to each assignment. Again, what I seek is improvement of skills—and a game attitude. The final term project is very important, but it's not the whole package.

Violations of either journalistic or academic standards will obviate all other considerations. And of course, all assignments must be filed and filed on deadline. Anyone missing more than two classes will be asked to drop the course. Your participation and interaction with your classmates is part of what happens and if you can't be present, no matter how valid the reason, you have denied your colleagues part of what they need to succeed.

Trying hard, factors-in, too. Woody Allen says that half of success is showing up. We'll amend that: the other half involves trying harder than the next person.

Course Format and Requirements:

We do a mixture of writing different types of popular science articles of varying lengths, researching them from top to bottom, and then reading some of the students' work aloud, in class. Students are asked to offer helpful criticism to each other and work together on solving reporting problems. We ask you to post your critiques both online, through Canvas, which is replacing the old CourseWorks, but also to bring them to class.

The Canvas website will be the medium of communication for all members of this workshop.

Great writing skills and improvement of those skills is what we're looking for—but we also appreciate students who are willing to support their classmates, participate in constructive critiques and who are willing to go the extra mile to do creative research for their pieces.

Whenever it is realistic, students are asked to submit their classroom work for publication. That can mean anything from mass circulation magazines to the in-house publications at Columbia University and SIPA. Students are encouraged to find Internet publishers for their work.

The Earth Institute has a website—as does the Sustainability Management program and students are encouraged to submit appropriate class work there. This course also has a cooperative relationship with the **World Policy Journal** of the World Policy Institute in New York City. Many class members have seen their work published on their influential website.

Though all work produced for class must be original, we believe in you "recycling" it into print. Why not have your friends and colleagues see the product of your hard work?

Writing is key to success in this class. We believe that writing is like gymnastics: the more you do, the better you get. So you will be doing a lot of writing. Plan on it. We're looking for enthusiastic writers and curious reporters, but also students who will improve their skills over the semester. An improved/dedicated writer can be assured of a fine grade. Handing in assignments on deadline is critical.

As mentioned previously, the Katherine Sullivan and I will be spending as much as an hour reading and analyzing every submission to class. We will provide our experienced advice on how to improve the stories. Grades will be impacted by the willingness of students to use the information provided in these editorial notes and to follow them.

Your instructor is available during office hours for one-on-one coaching and will also mentor students through their larger projects. The grading and curriculum assistant will also have two hours available for that purpose on a different day.

KEEP IN MIND:

Be aware that this course is rigorous and involves a serious commitment from registrants. We don't want to kid you about that.

On the plus side, registration is capped at about fifteen so that students can make the maximum of progress in a short period of time.

OVERVIEW:

Students will be asked, depending on the class' pace, to produce as many as five different types of feature articles and two short ungraded assignments during the semester. That probably means writing almost every week and filing promptly.

Final grades are based on attitude, writing skills, improvement of those skills, reporting enterprise, following of editorial advice, classroom participation, and the meeting of deadlines.

Publication of class work will win extra consideration at grading time and we will do much to encourage it. In this era of internet magazines, newcomers can find markets with comparative ease.

Because this class is formatted as a workshop, students will be asked to produce stories, but also to read and critique each other's writings. Both are key elements of this workshop.

Lateness in filing assignments impedes the entire class' progress, and unfortunately, must be penalized in grading.

E.MAIL: Students are asked to e-mail their completed writing assignments to Prof. Dreifus at cd2106@columbia.edu as a "paste" communication on the Saturday before class. Please do not send stories in .docx format. Please also cc the teaching assistant, Katherine Nell Sullivan at kns2137@columbia.edu .

Completed pieces should also be posted on Canvas at that time so that classmates can have access to them for comparison and critique. This should be the regular protocol for all filings.

A NOTE ON TIMELY FILING: In order for students' writing to be graded and considered in time for Tuesday's class, it is vital that assignments be filed on Canvas by Saturday night. Firm.

ANOTHER NOTE ON FORM: As in journalism, all filings must be clean, grammatical and as far as possible, in "ready to print" form. That means, of course, with a headline and a by-line.

MIDWEEK E-MAIL INQUIRIES: Though available in emergency situations, your instructor and grading assistant wish to stress that this is not an e-course. It is a lecture-based workshop. Therefore email enquiries about small matters are inappropriate. We would prefer that you use office hour appointments for your questions about assignments and to take careful notes during lectures, where key pointers will be covered.

A SEPARATE NOTE ON PACE: We will move as quickly or as slowly as the class' progress requires. That, of course, means the schedule below is not set in stone. As that late 20th century philosopher John Lennon had it: "Life is what happens when you're making other plans."

Please consider this syllabus provisional. To some extent our pace will be determined by the levels of the skills of the members of the workshop; we will go as fast or slow as is necessary to be effective.

SESSION ONE, Tuesday, January 19, 2016: Introduction

The Difference: How science journalism contrasts with academic writing, everyday business writing or public relations and how it differs from standard feature writing.

In this introductory session, we will identify current scientific topics that lend themselves to features for newspapers, magazines and the Internet.

We'll discuss the story structure of the science feature. What are the elements of a compelling science feature? How does one transform numbers and findings into a literary narrative? How does one create a simple story without 'dumbing down' the content? Why does the work of successful science communicators, such as the late Oliver Sacks and Brian Greene, have wide appeal? What are they actually doing?

Why does Rockefeller University Nobelist Gunter Blobel tell his post-docs, "If you can't explain it to your grandmother, don't bring it to me?"

Assignment: Write a 750 word science-based op-ed that is targeted to a market like, the **New York Times**, the **Washington Post**, or the blogs of an NGO like State of the Planet, the National Resources Defense Council or Carnegie Council on Ethics.

Short filing date: Please file by Saturday, January 23th. Please file on Canvas and by sending a copy via email to Professor Dreifus and Ms. Sullivan.

SESSION TWO, January 26: The Science Based Op-Ed, Part One

What exactly is an op-ed piece? Are science op-eds different from other sorts of opinion pieces? What markets will print a science-based op-ed?

What are the mechanics of submission? What are the differences between a short personal essay and an op-ed? Can one do a personal essay about a scientific topic—how?

We will be discussing selected op-eds in class, as well as everyone's experience in writing them. Any student with a grade under A minus will be asked to produce a second draft.

Those of you who received grades lower than an "A-minus" on their first draft of the op-ed will be asked to do a second draft. Due date: January 30th.

For this session: please read the op-ed pieces provided in the course pack. Please also read Abraham Verghese's *Close Encounters of the Human Kind* op-ed here: http://www.nytimes.com/2005/09/18/magazine/18lives.html?_r=0

Also, Rebecca Skloot's recent warning:

http://www.nytimes.com/2015/12/30/opinion/your-cells-their-research-your-permission.html?ref=opinion&_r=0

And this from the Guardian about science journalism:

<http://www.theguardian.com/media/2015/dec/30/problem-with-science-journalism-2015-reality-kevin-folta>

And finally, an opinion piece written off of a journal study on a medical question:

<http://www.nytimes.com/2015/11/22/opinion/sunday/are-good-doctors-bad-for-your-health.html>

SESSION THREE, February 2: The Science Based Op-Ed piece or Short Personal Essay, Part Two

First hour: More on op-eds and rewriting.

Second hour: Class discussion: Profile or Interview? What's the difference?

Hand-out in class: Claudia Dreifus' tips for interviewing.

Assignment for next week: (can be started earlier) Interview an individual with a connection to the scientific enterprise. Don't interview anyone you know, work with or are subordinate to. Write either a 1200 word profile or a 1500 word Q and A about and with your subject. Due date: February 6th.

It is sometimes difficult for students to get sources to agree to an interview. So it's good to try to set one up right at the beginning of the semester.

Reading for next week: Introduction to Scientific Conversations-Interviews on Science from the New York Times; Claudia Dreifus' profile of E.O. Wilson from the October, 2015, Audubon Magazine. Here's the link: <https://www.audubon.org/magazine/september-october-2015/eo-wilsons-wants-us-leave-half-earth>

And here's Erica Goode's recent profile of a lion conservationist in the Science section of the *New York Times*:

<http://www.nytimes.com/2015/12/29/science/lions-hunting-africa-craig-packer.html?&moduleDetail=section-news-2&action=click&contentCollection=Environment®ion=Footer&module=MoreInSection&version=WhatsNext&contentID=WhatsNext&pgtype=article>

Some of you may prefer writing profiles on your first draft, rather than interviews. Students receiving less than an A minus for their first draft will be asked to do their assignment over again either as a second draft interview or as a profile. Therefore, everyone is urged to take extremely good notes during the actual interview.

SESSION FOUR, February 9th: Scientific Conversations—Interviews/Profiles

First hour: Class discussion--how does a writer shape the raw material of an interview into a successful article?

Two New York Times interviews by Claudia Dreifus, will be deconstructed from idea to publication:

- Evelyn Witkin:

http://www.nytimes.com/2015/12/15/science/evelyn-witkin-and-the-road-to-dna-enlightenment.html?rref=collection%2Fcolumn%2Fa-conversation-with&action=click&contentCollection=science®ion=stream&module=stream_unit&

- Naomi Oreskes:

<http://www.nytimes.com/2014/10/28/science/naomi-oreskes-imagines-the-future-history-of-climate-change.html>

What are the choices a writer makes? Could this have been written from other angles?

In terms of a profile, an extremely long one, how did Tracy Kidder render Paul Farmer into someone we care more than about? How does he illustrate the complicated issues of poverty and health care in Haiti in such a way that we forget that we're reading a book about health policy?

The shorter profile of E.O. Wilson: how does a reporter use a "moment" to tell a bigger, fuller story? *Second hour:* reading of selected students' interviews/profiles

Assignment: Those students who need to rewrite their interviews, will be asked to do so—and to do it as a prose/profile. Due date—Feb. 13th. Any student receiving a grade of less than an "A minus" will be asked to do a rewrite, on this and any other assignment.

Handout: Andrew Hacker's worksheet with exercises for you to do at home; please fill out and bring with you next week.

SESSION FIVE, February 16: How to Use Statistics to Make Your Journalism Come Alive - Guest Andrew Hacker

First hour: More reading in class of students' profiles/interviews.

Second hour: Andrew Hacker, contributor to *New York Review of Books*, author of "The Math Myth," published in *March*, 2016 by the New Press.

Handout: Claudia Dreifus' tip sheet on writing effective query letters. Due this Saturday, Feb. 20th, a query letter targeted to the appropriate editor on your projected term project.

SESSION SIX, February 23rd: Multi-tasking session.

We'll be finishing up the rewrites of interviews/profiles, discussing the filed query letters and covering a science event.

Next writing assignment/start thinking about it now: cover an event related to some science or sustainability topic—e.g., a lecture sponsored by the Earth Institute or the American Museum of Natural History, a nature tour of Central Park, a wine tasting at a Long Island vineyard, bird-watching classes in Westchester. Bring back a picture—in words—of what went on. Who are the characters in this real life story?

What is happening? What kinds of dialogue do you hear? In many ways, this will be an exercise in observation and note-taking. What do you see that is important enough for you to want to transmit to your reader? Make it come alive.

SESSION SEVEN—March 1st. Editor's Night. Producers and editors from scientific media will be visiting with us, talking about what they do and how they do it. After, there will be a Dutch-treat informal supper with our guests at V&T restaurant with our speakers.

Guests (so far) Jill Taylor, Staff Editor, Science Times, David Corcoran, former Science Editor, New York Times, Yaffa Frederick, Managing Editor, the World Policy Journal, Christopher Shay, Editor, World Policy Journal, John Horgan, Scientific American blogs, Shaun Randol, Editor/Publisher, The Mantle.

6:00-6:30-catch up on classwork

6:30-8:00-guest speakers

8:00-9:30-Dutch treat supper with guest speakers.

This session will be held in a room TBA. Class members are welcome to bring friends and colleagues to the lecture section of the evening.

March 8: SESSION EIGHT--COVERING A SCIENCE EVENT.

Professor Dreifus will be moderating an event at the 92nd Street Y for their "Genius Festival." Harvard astrophysicist Avi Loeb, an expert on the early universe and Yale astronomer, Meg Urry, will talk about breakthroughs in our knowledge of the cosmos.

Free tickets will be available to students from the class. They can also use the experience as a topic for an event piece, if they haven't done a successful one yet.

Private greeting with the speakers for class members.

MARCH 17--SPRING BREAK

Please use this solid block of time away from class to begin work on your term project assignments.

By now, you should have chosen the topic you are going to pick for your final class assignment. Use the holiday to begin researching it. It's the best opportunity you'll have to get this work done. Your query letters will be read over the holiday. But writing them will help you focus on what you want to do.

SESSION NINE MARCH 22/Event piece

For the rest of the semester, we will be functioning, as many journalists do, on multiple tracks in each class.

First hour: Completion of Event pieces—discussion.

Second Hour: With the holiday over, we will begin work at this time on the culminating event of the semester—the long form narrative non-fiction science based story. Let's begin by revisiting Anya Schiffrin's excellent power point on story structure. Everything you need to write a long form narrative story is right there.

Here are some long form science writing stories you might want to read in advance and check in advance against Anya Schiffrin's powerpoint.

Elizabeth Rosenthal's report in the New York Times, story on "The Odd Math of Medical Tests" has a perfect structure. See it here <http://www.nytimes.com/2014/12/16/health/the-odd-math-of-medical-tests-one-echocardiogram-two-prices-both-high.html>

Longer stories to consider:

Migration:

"The Dream Boat" by Luke Mogelson, New York Times Sunday Magazine," 5,000 words on refugees.<http://www.nytimes.com/2013/11/17/magazine/the-impossible-refugee-boat-lift-to-christmas-island.html?pagewanted=all>

The Death Penalty: Claudia Dreifus, "Women on Death Row," (Available in Library Reserves.) 4500 words

Check out: Rebecca Skloot's "The Immortal Life of Henrietta Lacks." How did she take a tough subject—medical ethics—and make it accessible?

To prepare for this class, please also read chapters 1 and 3 of *Invisible Child: Dasani's Homeless Life*. This is a five part series on poverty in New York that took almost a year to produce. Why did it take so long? Find it here: <http://www.nytimes.com/projects/2013/invisible-child/#/?chapt=1>

Also consider: Solutions Journalism, Handbook, available free to you on-line and produced by Sarika Bansal, a former student in Prof. Dreifus' Feature Writing Class at SIPA.<http://solutionsjournalism.org/tools/solutions-journalism-toolkit/>

CLASSWORK: Reading of selected query letters for term projects and discussion of them.

Assignment for next week: begin work on a 2000 word feature article on a global science/international sustainability issue. Start off by outlining a plan of action—including sources to interview, events to cover, books to read, information to uncover.

Write a tentative lede. Post both outline and lede on Canvas by Saturday, March 26th.

SESSION TEN March 29th.

Workshop Session on Term Project.

SESSION ELEVEN, April 5th: Double duty session—The long form story, social media

First hour: Round robin on term project progress.

Second hour: A discussion on how to do the term project in other forms of media and multi-platform story telling.

The TA will discuss blogging and new media.

Assignment for next week: Write a 300 word blog post on a topic of interest, preferably one related to your term project (maybe about an aspect of it). Post it on an appropriate site, if you can. File by Saturday, April 9th.

SESSION TWELVE, April 12th: Communicating Science

First hour: Discussion of blog postings.

Second hour: David Golston, Washington Legislative Director, Natural Resources Defense Council; John Delaney, Vice President, Communications, Wildlife Conservation Society.

SESSION THIRTEEN, April 19th: Putting It All Together-

Assignment due date: first draft of final project on April 16th—2000 words on some aspect of global science. Target your story to a specific market you hope to sell it to.

Think about mixed media and new media supplements to your written story—i.e. podcasts, videos, slideshows, blogs that you might create to enhance your story.

The story should not be longer or shorter than the word count. Part of the exercise involves learning to write for space requirements.

SESSION FOURTEEN, APRIL 26th: Last Day of Class

This final session will be held at the home of Professor Dreifus. Every student is asked to bring a home cooked dish as part of a class communal supper. Your final term project is due May 2nd and should be posted on Canvas.

ESSENTIAL READING

On Mondays, please read Professor Steve Cohen's weekly blog on the Huffington Post. It is one of the most successful efforts of this kind on the Internet, a model really on how a professor can build his/her own mass readership and create the equivalent of a newspaper column on the web. What makes Prof. Cohen's column successful? Why does it work?

*On Tuesdays, please read in the paper edition the Tuesday **Science Times/New York Times**. What is different about reading this type of news on paper--as opposed to electronically? What is different about the stories in Science Times--from science based stories that you might read on the Web?*

"Scientific Conversations: Interviews on Science from the New York Times," Claudia Dreifus, Henry Holt/Times Books, (Available from used book sources on Amazon or Half.com—get early in semester.)

"Am I Making Myself Clear—A Scientist's Guide to Talking to the Public?" Cornelia Dean, Columbia University Press

"A Field Guide for Science Writers," The Official Guide of the National Association of Science Writers, Deborah Blum, Mary Knudson, Robin Marantz Henig

"The Writer's Market," (Writer's Digest Books) This book is extremely useful if you are considering submitting your work for publication.

"How to Write Attention Grabbing Query and Cover Letters," John Wood, Writer's Digest Books, This book will tell you how to write a query letter, an important skill.

"The New York Times Book of Science," Edited by David Corcoran, Sterling Publishers.

"Global Muckraking: 100 Years of Investigative Journalism From Around The World," Edited by Anya Schiffrin, The New Press.

"Explaining Research," Dennis Meredith. (Available on Amazon.)

MORE SUGGESTED SOURCE MATERIAL

BOOKS:

"The Immortal Life of Henrietta Lacks," Rebecca Skloot

"The Best Science Writing of 2015"

"The Canon," Natalie Angier

"Field Notes From A Catastrophe: Man, Nature and Climate Change," Elizabeth Kolbert.

"The Sixth Extinction: An Unnatural History: Elizabeth Kolbert

"The Gay Talese Reader: Portraits and Encounters," Gay Talese

"Half-Earth: Our Planet's Fight for Life," Edward O' Wilson

"Letters to a Young Scientist," Edward O' Wilson

"The Math Myth," Andrew Hacker

"The Periodic Table," Primo Levi

"Uncle Tungsten: Memories of a Chemical Boyhood" Oliver Sacks

LIBRARY RESERVES: Some feature writing source works used in my magazine writing class will be posted within the "library reserves" feature of Canvas. Though these are not science stories per se, they may be of use to you in looking at story structure and detail.

BIOGRAPHIC NOTES ON THE PROFESSOR: I am a contributing writer to the Science section of the *New York Times*, a contributor to *Newsweek*, *Smithsonian*, *Scientific American* and *Ms*.

In a former life, I was the Playboy Interviewer—where I interviewed Gabriel Garcia-Marquez, Daniel Ortega, Susan Sarandon, William Safire, Arthur Schlesinger, Jr., among others. But that was long ago and far away.

The American Society of Journalists and Authors has honored me with a "career achievement award," and Sigma Xi, the national honorary society of research scientists has made me an honorary member for "transforming" how science is covered in my New York Times interview column.

In 2010, Times Books/Henry Holt published "Higher Education?" my non-fiction polemic with Andrew Hacker, which was reviewed in the *New York Times*, the *Washington Post*, *USA Today*, the *Economist*, the *Wall Street Journal*, the *American Prospect*, *Bloomberg Business Week* and

more. It was among the most reviewed non-fiction books of the year and continues to inform the national debate on the direction of American higher education.

BIOGRAPHIC NOTES ON THE TEACHING ASSISTANT: Katherine Sullivan is a 2017 dual degree candidate working towards her Masters of International Affairs from SIPA and Masters of Science in Journalism with a focus on environmental and energy policy.

Originally from upstate New York, Katherine received her bachelor's degree in History, Political Science and Women's Studies from the University of Scranton, in Pennsylvania. After graduation, she moved to Rwanda, where she spent the past three years living and working as a copyeditor for a small English-language Rwandan newspaper and a freelance journalist for African and international media. Publications she has contributed to include *The Associated Press*, *The East African*, *The Guardian*, and *Foreign Policy*.

COLUMBIA INTEGRITY

Please familiarize yourself with the proper methods of citation and attribution. The School provides some useful resources online; we strongly encourage you to familiarize yourself with these various styles before conducting your research and writing.

As stated in your Sustainability Management registration packet, Columbia University functions at the highest levels of integrity and demands the same from its students. It goes without saying that plagiarism, "recycling" of previously produced works, the employment of intellectual products created by others will not be tolerated.