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# Inspired by a class, Stanford undergraduates start a popular science publication

*A science communication seminar taught by chemist Paul Wender helped launch the first undergraduate pop-science publication, called* Fascinate*.*

BY TAYLOR KUBOTA

In fall of 2014, chemist **Paul Wender (https://profiles.stanford.edu/paul-wender)** offered the introductory seminar *Science Innovation and Communication*. He had never taught a so-called IntroSem before, but after hearing about his colleagues' fondness for these small classes for first-year students, he decided to create one focused on how science is conveyed to the public.

"If we are to change the world for the better, it not only starts with those now positioned to do so but, more importantly, with the future policymakers and scientists as well as those who appreciate science," said Wender. "These students can enact change in ways unimaginable."

Undergraduates Grayson Melby, left, and Lisa Manzanete from the student popular science publication *Fascinate* recruit at the 2017 Student Activities Fair. *(Image credit: L.A. Cicero)*

Wender believes that all of his students have interesting stories to tell. Young, scientifically minded and striving to connect with an audience beyond their fields of study, they offer a special perspective in an area of journalism too often bound to political preferences, he said.

"He saw how so many other events on campus were being advertised and believed that if the many scientific discoveries on campus were discussed with the broader community, the enthusiasm for science would be infinite," said Karim Aloul, '21, a student in this year's class, recalling how Wender described his motivation for establishing the course. "The passion he had for the subject and his optimism for the beauty that is innovation within science was truly motivating."

In each of the three years Wender has taught the course, students created a final website to showcase their work. The first class made **Scifari (https://scifari.wordpress.com/author/scifari/)**, the second made **Fascinate (https://fascinatepublication.org/)** and the third made **Interrobang (http://discoversci.wixsite.com/interrobang/meet-the-team)**. After the second class ended, several students came together and established *Fascinate* as an official Stanford student organization and the university's first undergraduate pop-science publication.

## Sharing science

Wender's own **research (http://web.stanford.edu/group/pawender/about-professor-wender.html)** brings together chemistry, biology, medicine and materials science to explore and advance the science of chemical reactions and to tackle imposing diseases, including HIV/AIDS and cancer. His passion for his work, and similar devotion he's seen in his colleagues, is at the heart of what he thinks his IntroSem students and alumni can bring to their readers.

"Having students share their excitement and the fun and the value of science won't only benefit them but also the people they reach," said Wender. "Wouldn't it be nice to celebrate science advances and scientists the way we celebrate achievements in the arts and in athletics?"

Throughout the quarter, Wender brings in speakers from different areas of science communication and connects students with prominent people from industry, science and elsewhere for their stories. Beyond that, the course is highly self-directed and individualized.

"He gives us a lot of autonomy in what we do, what we choose to write on and what we choose to create," said Cami Tussie, '21, a current student in Wender's IntroSem. "It's really nice having that responsibility and being the people who can make the big decisions."

By the end of the course, every student will have finished at least one story that has gone through a rigorous cycle of editing and rewriting. Topics that students are working on currently include articles on a day in the life of a chemistry graduate student, a look back at the Spanish flu of 1918 and the future of nuclear energy.

## Interest and importance

Although students in the class are good writers and comfortable with scholarly communication, writing for mass appeal pushes many of them out of their comfort zone.

"You have to be very careful with your word choices," said current student Corey Baker, '21, when asked about the biggest lessons he's learned from the class so far. "It's very easy to lose a reader, especially one who isn't interested in science. Making sure to explain the science well while also keeping it interesting is key."

In the class, students learn that what they write needs to be more than available, it needs to be welcoming and relevant to their readers' everyday lives – something that continues to drive stories in *Fascinate*.

ecommended reading

en ribbon of hope: Demilitarized Zone

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Hope-Demilitarized-Zone-DMZ)

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"Science communication is equally as important in understanding our world today as any other journalistic genre," said Annika Brakebill, '19, member of the *Fascinate* editorial team and former editor-in-chief. "Why get the flu vaccine? Are GMOs bad? Will purchasing a Tesla save the world? To be a conscientious consumer, a basic scientific background is becoming more and more important."

Brakebill was one of the students who established *Fascinate* as a student organization, along with Amanda Urke, '19; Christina Kohlmann, '19; and Lisa Manzanete, '19.

## A bridge

The *Fascinate* team sees their publication as a bridge between researchers – which many of these students are themselves – and readers who aren't involved in science. This mission comes from an awareness that both researchers and the general public have influence on and a very personal stake in the future of science. If these students are successful, their readers should be chatting about **CRISPR (https://fascinatepublication.org/2017/11/05/crispr-jennifer-doudna-and-the-breakthrough-of-the-century/)**, **ocean acidity (https://fascinatepublication.org/2017/05/14/skeletons-beneath-the-waves/)** and **gravitational waves (https://fascinatepublication.org/2017/11/05/gravitational-waves-feeling-ripples-in-spacetime/)** over dinner with friends.

"At Stanford you have a very educated audience but they may not be specialized in the field that they're reading about," said Urke, who is *Fascinate*'s current editor-in-chief. "The trick is getting someone who's not necessarily interested in the gut microbiota to think, 'Wait, that's super important to health. I may actually want to consider changing my lifestyle habits.'"

In addition to publishing science stories, *Fascinate* also organizes writing workshops and speaker events, and is hoping to do science outreach at local high schools. Past *Fascinate* speakers include Stanford neurobiologist and conservation photographer **Susan McConnell (https://profiles.stanford.edu/susan-mcconnell)** and **Justin (https://profiles.stanford.edu/justin-sonnenburg)** and **Erica Sonnenburg (https://profiles.stanford.edu/erica-sonnenburg)** from the Stanford University School of Medicine.

Encouraged by the success of *Fascinate*, Wender has met with students outside of Stanford to see whether the publication – which just published its seventh issue – can eventually become a multi-institution collaboration. In the meantime, as the quarter reaches its end, he is eager to see the final products produced by his current IntroSem students.

"Needless to say I am very excited about this course," said Wender. "It's the most exciting I've taught in my 40 years on faculties at Harvard and Stanford."

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