

The Art of Communication

Should science be communicated in the language of social media?

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In the 21st century, stepping out of your comfort zone has become a mantra repeated almost ad nauseam across a number of fields. From the startup world to business, the media to politics, and even academia, the communications gurus recommend it as a kind of panacea for all modern-day outreach challenges.

I tend to agree with them. But when in July 2016 I joined the public relations group at the Kavli IPMU, I had to admit to myself that I may have bitten off more than I could chew. As a freelance journalist without any training in science, but with a general interest in all things scientific, I was not sure what—if anything—I could contribute to an institute of fundamental physics and mathematics.

Despite the daunting challenge of understanding the research that I was tasked with presenting to the public, I stepped up and—for the 10 months of my contract—did my best to represent the institute in Japan and abroad. In addition to publishing press releases of the latest research, I coordinated with colleagues at the Kavli IPMU and around the world to share with the public the latest results from the institute and its many global partners.

We also helped to create public events, including open days at the institute and at science conferences around the world. Of all the fascinating work that is done at the Kavli IPMU, one of the most eye-opening for me was to see throngs of people attend a public lecture by one of our researchers.

And it was really thrilling. As the legendary science communicator Carl Sagan once said, “When you’re in love, you want to tell the world.” He was talking, of course, about his life-long love affair with science, an affair he communicated in pioneering broadcasts like *Cosmos: A Personal Voyage*. A thirteen-part series, *Cosmos* broke new ground for television programming in the 1980s.

And yet, in the middle of the back-and-forth emails and preparatory work that is the mainstay of press officers, I had to face my greatest challenge: confronting the fundamental research that our scientists produced. Was I worried? Was I terrified? Absolutely. And yet I need not have been.

Researchers at the Kavli IPMU seem to have the patience of angels. Whether it was a question about the cosmic microwave background, the Standard Model of Particle Physics, or Lagrange on number theory, they listened carefully and answered fully—and without condescension. I was impressed with their communicative ability, especially as most are not native English speakers.

Kavli IPMU is endowed with a number of world-class science communicators. From the top, Director Hitoshi Murayama has led with infectious passion—he is a recognizable figure, and may be described as “the Carl Sagan of Japan.” He keeps the audience spell-bound long after a lecture, when he stays behind to answer the eager questions of individual attendees.

And the list of well-known scientists who go the extra mile in their communications with the public reads like a “who’s who” of the science world: 2015 Nobel Prize-winning physicist Takaaki Kajita and Principal Investigator and theoretical physicist Hiroshi Ooguri, to name two.

So it was not a surprise when I discovered that one of the criteria for selecting researchers at the institute is their ability as public communicators. And yet, it is my feeling that more can and should be done to reach the public. I firmly believe that to do this, researchers have to reach outside their comfort zone and embrace the latest platforms of mass communication: social media.

For many, social media is a menace to society and right-thinking-people are better off avoiding it. I think that view is mistaken. As a social media strategist, in addition to being a writer, I see the power of social media on a daily basis. Early in the 21st century, social media—be it Facebook, YouTube, Twitter, Instagram or whatever follows them—is the means of global communication. It is the television, or the radio, or the telegram, or the letter, or the messenger pigeon, or the smoke signal of modern times. But with a great difference: it is virtually free to produce and it has scale.

Facebook alone has, at the last count, around 2 billion users. Instagram has reached 700 million. There are some 300 hours of video uploaded to YouTube every minute, and around 5 billion videos are watched every day. People don’t just turn on social media in the same way that we turned on the television or radio in the past; they are on social media; that is where they spend a lot of the waking day.

Institutions, be they in the public, private, or academic sector, have to embrace social media. And so do individuals, in this case researchers. Whether you are a supporter or not, it is hard to argue that President Donald Trump of the United States has not found an effective tool for getting his message directly across to the public. Via his social media platforms, he can reach around 100 million people

directly.

But Trump is not a pioneer in this regard. So-called “influencers”—individuals who have a strong fan base on social media—have led the way in social media usage for as long as the medium has been around. Many scientists have followed suit. In the United States at least, public scientists like Neil DeGrasse Tyson and Brian Greene have cultivated a strong on-screen and social network persona. DeGrasse Tyson, for instance, has over 5 million followers on Twitter; Greene’s World Science Festival’s YouTube channel has over 230,000 subscribers.

Like Carl Sagan before them (in his case when he embraced the then-magic of television), they have on occasion received criticism for not being “real scientists” because they appeared—or appear—to be as concerned with their public reputation as they are with their academic one.

Despite the cynics, a new generation of researchers and science lovers are taking on the challenge of science communication for the masses. Physics Girl, a channel on YouTube, is run by Dianna Cowern and Sophia Chen. One of their videos—called “Crazy pool vortex”—explains vortices in straightforward yet non-condescending language. As of this writing, the video has been watched more than 6 million times.

Science students and enthusiasts like Cowern and Chen are not alone; there are more and more niche social media users out there, even in esoteric subject areas, and they are revolutionizing science communications—see the inspiring story behind IFLScience, for instance.

From my short time at the Kavli IPMU, I know that the institute’s greatest asset is its people. But I hope that, like Carl Sagan and others, more of them than has been the case thus far will step out of their comfort zone, and tell the world—in their own voice—about their love of science. To paraphrase Galileo: science may still be written in the language of mathematics, but in the 21st century, it is—perhaps—best communicated to the public in the language of social media.