2013 AAAS Science and Engineering Mass Media Fellow

Joseph Hanson

Degree: PhD, Cell and Molecular Biology

School: University of Texas at Austin

Sponsor: American Physiological Society

Media Site: WIRED

Research Focus: Retrohoming behavior of group II introns and their use as genetic engineering tools.

Translation: Our genes are interrupted with thousands of nonsense sequences that must be spliced out by our beautifully elaborate cell machinery in order to create a complete protein in the end. These sequences are called introns. However, simple organisms like bacteria have very few introns. If we look far enough back on the evolutionary tree, we can see where these introns came from and how they multiplied. It turns out some of the oldest introns act like primitive viruses, and can jump in to new genomes. I study the biochemistry of how they search for their favorite DNA sequences, and thanks to our discoveries, we are able to use them as genetic engineering tools to mutate genes on command.

What are your goals for the summer?
I hope to become comfortable with the process of the editorial cycle at a professional publication and to polish my "journalistic" writing style. What makes a good story pitch? How can I integrate interviews into my work? Wired is a truly innovative publication that stays relevant in both print and online, and after this fellowship I hope to be ready to immediately establish myself as a professional science writer in both arenas.

What are you most excited about?
The chance to live and work in San Francisco is a dream. Beyond the geniuses at Wired, I can't wait to immerse myself in the creative and innovative culture out there. I think it will be fertilizer for the brain.

Why are you passionate about science communication?
I've always viewed myself as a teacher, both when I am actually teaching in a classroom and when I am writing or making videos. For the first time in history, the people who DO the science now have every necessary tool at their disposal to deliver knowledge directly to hungry minds. People are inherently curious, but lack accessible knowledge. As our world becomes more advanced and dependent on technology, it becomes our duty to deliver it to them. And hopefully, we have fun doing it.

Who is your favorite science communicator?
Richard Feynman recently stole the crown from Carl Sagan. Both men are poets of the natural world, but Feynman had an ease and a simplicity about him that was like a warm blanket and a story being told to you by your favorite uncle.

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Do you have a link to an article you'd like to share?
How about my entire website? I can't pick a favorite child.
http://www.itsokaytobesmart.com

Describe your dream job.
No joke, I want to be like Bill Nye. Only a slightly snappier dresser.

Tell us about something you do outside of the lab.
I'm pretty athletic. I love to play soccer, run (road and trail) and bike. I recently caught the photography bug, too. Also, I almost went to culinary school instead of grad school, so I like to cook, drink, eat.

Anything else you'd like to share?
Favorite cheeseburger topping: Hatch green chile.

I remember the exact moment I decided I wanted to do this for a living. A teacher emailed me and said she had almost no money to do activities for an inner city summer camp program for 6-10 year olds. She wanted to do something to get them excited about the Mars Curiosity landing. So I collected some various free activities from NASA sites, several blog posts about Mars and some videos I had collected. Didn't think much more of it until she sent me a set of photos from that day. Kids who have perhaps never had a complete science lesson, laughing, playing smiling, drawing, creating . . . as excited about Mars as anyone has ever been about anything. They took a picture in front of a sign they made that says "It's Okay To Be Smart", and I still look at it whenever I'm feeling tired or like I don't want to write something.