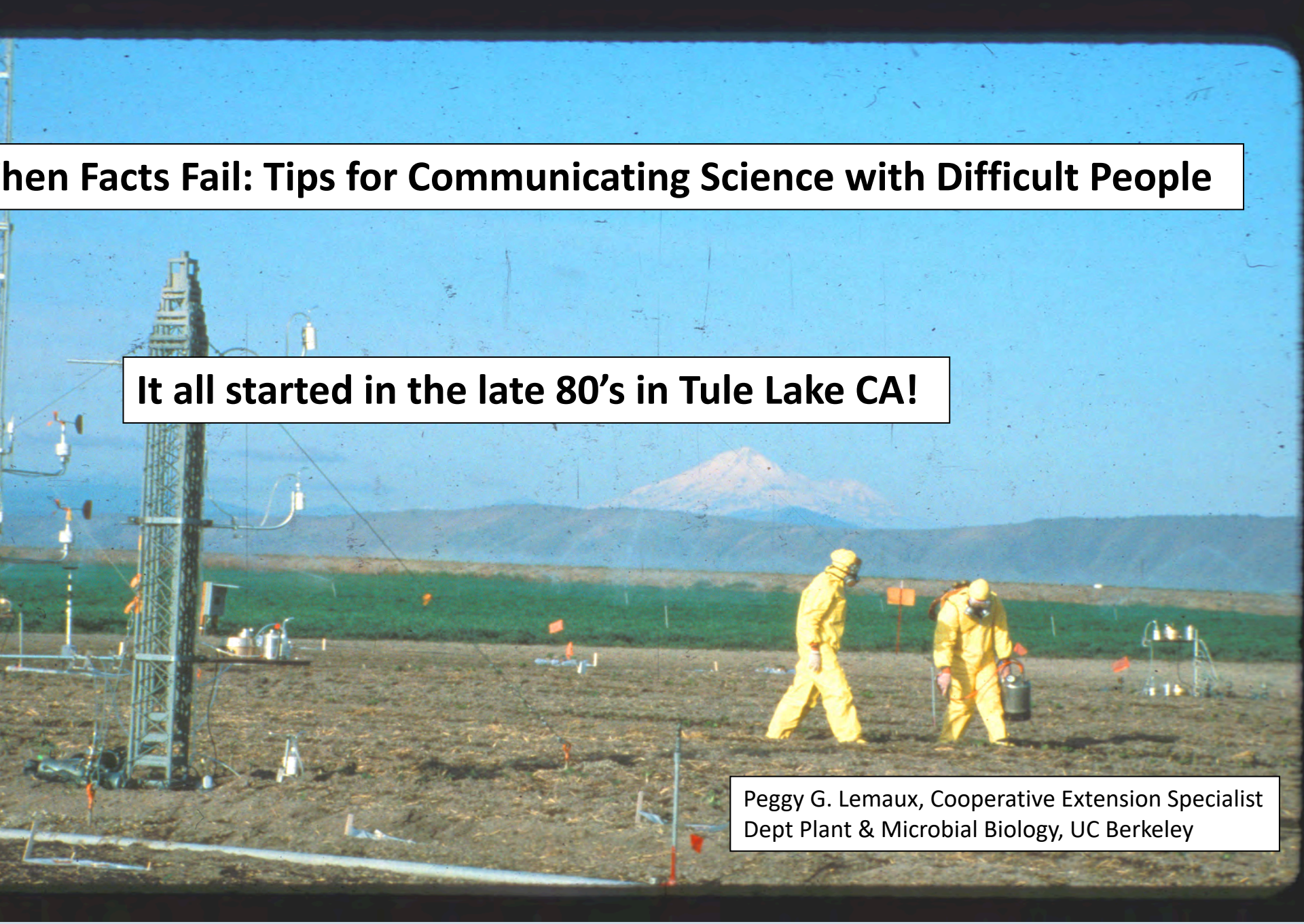
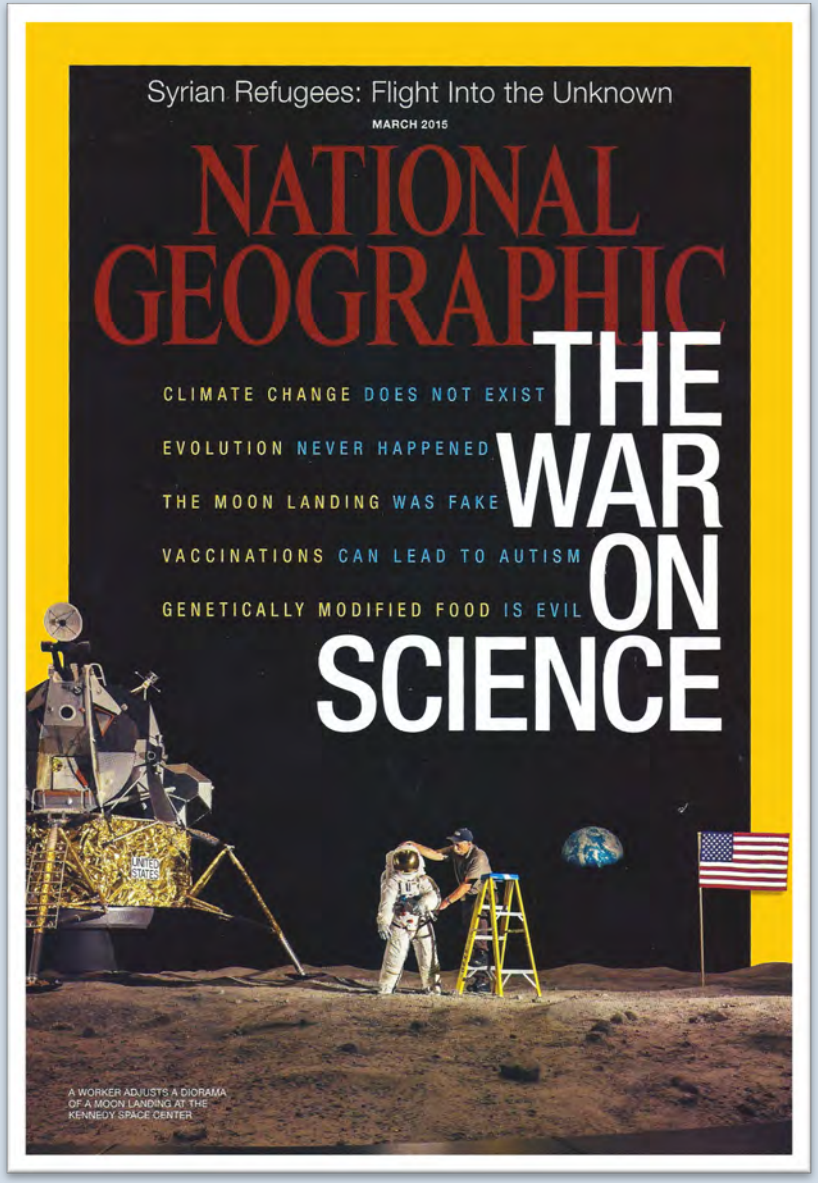
hen Facts Fail: Tips for Communicating Science with Difficult People



Peggy G. Lemaux, Cooperative Extension Specialist
Dept Plant & Microbial Biology, UC Berkeley



Consider the 2015 *National Geographic* article, "The War on Science" highlighting public concerns and discussing the role science plays in thinking about…

- **Climate Change**
- **Evolution**
- **Vaccinations**
- **Moon Landing**
- **Genetically Modified Foods, GMO's**

A lot of Americans don't know a single scientist. We need to fix that

By SARA WHITLOCK / FEBRUARY 7, 2017

MIKE REDDY FOR STAT

I've recently been thinking about this: There are a lot of Americans who don't know a single scientist.

This is one of our biggest failures as a community. When we March for Science in April, we'll be fighting for our right to freely communicate with the people whose taxes fund our work and the legislators who we hope will use our work to inform policymaking. But we haven't done a good job of actually communicating with people about what we do.

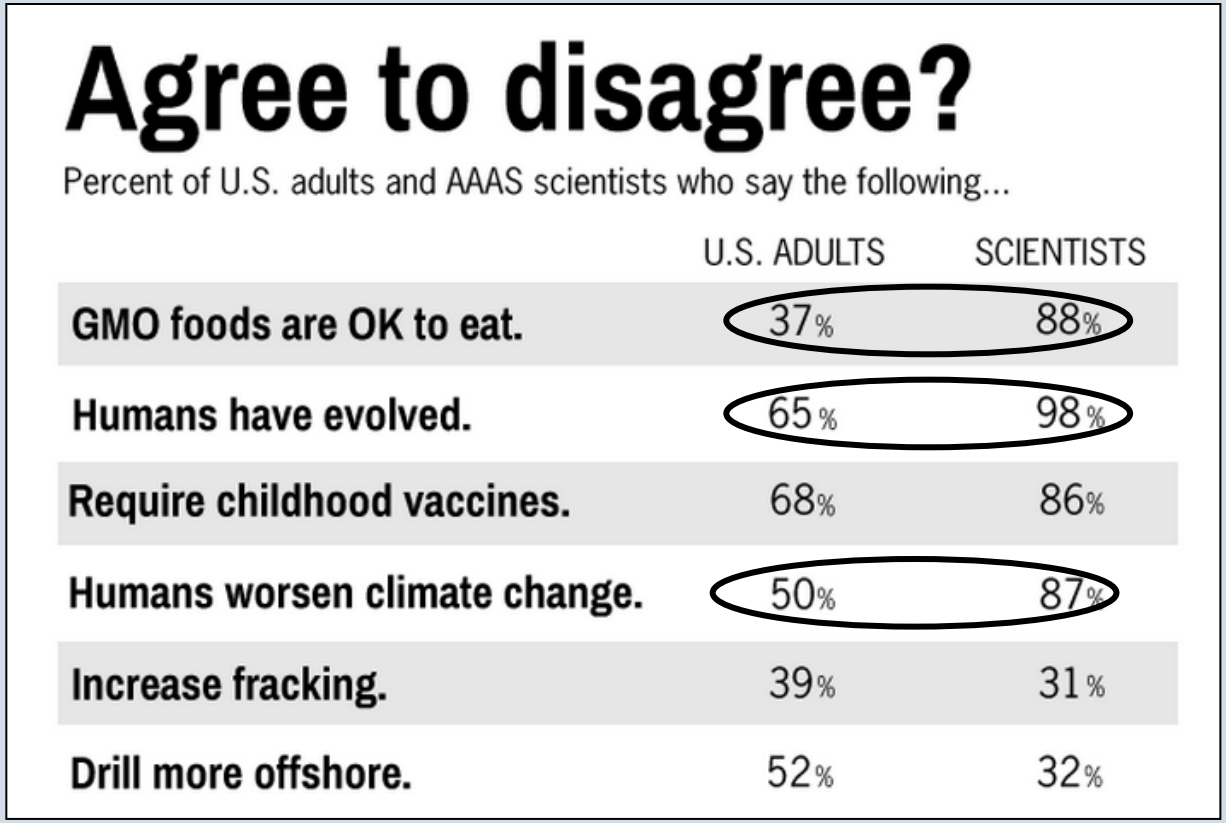
And do people even know who scientists are? One thing students worry about is that the average person doesn't even know who or what a scientist is or does

So, scientists need to get out and communicate with people whose taxes fund their work and legislators so they use that work to inform policymaking.

We need to communicate with people about what we do!

Whitlock, S. STAT Feb 7 2017.

And scientists don't necessarily view things the way the public does!



I often find myself in the middle of these discussions

SOURCE: Pew Research Center, January 29, 2015, "Public and Scientists' Views on Science and Society"
http://www.pewinternet.org/2015/01/29/public-and-scientists-views-on-science-and-society/

What kind of audiences do I talk to – often on controversial topics?

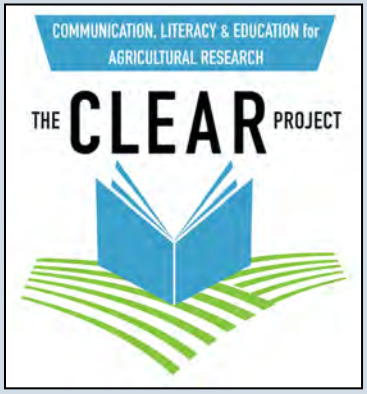
- Dietitians
- Teachers
- Growers
- Water Resources Board
- University Ethics
- Master Gardeners
- 4-H
- Ag in the Classroom
- Environmental Law
- Alternative Meat Class
- SACNAS
- Economic Development Conf
- Public Health Professionals
- Developmental Practice
- Educators of the Blind
- International Ag Scientists
- High School Students
- National Research Council
- Sustainable Ag Conference

What do I think about when preparing for diverse audiences (maybe not that diverse)?

- Know your audience
- Try to make it relevant
- Keep it simple – use analogies
- Be mindful of jargon
- Invite questions, allow time for interruptions; you can't know what is on everyone's minds
- Answer as factually as you can
- Don't have "canned" answers
- Don't be afraid to say you don't know – take names; get back to them
- Stay as current on issues as you can
- Listen to concerns
- Stay cool. Don't confront, you lose

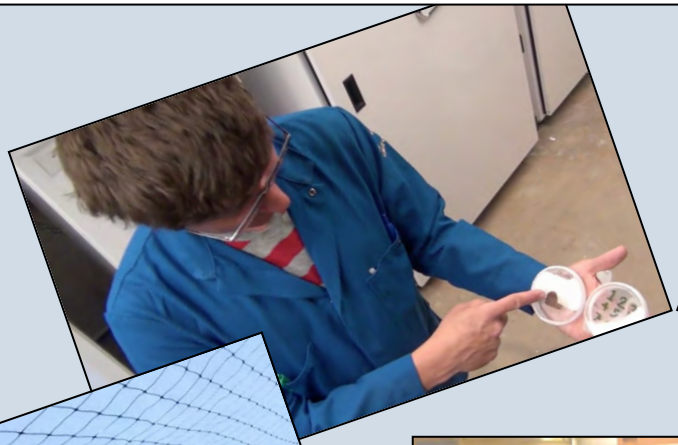
In 2015 my personal efforts shifted to helping students doing bench science meet an obligation to help the public understand why we do what we do

This was realized through funds from UCOP to start CLEAR: Communication, Literacy and Education for Agricultural Research



Mission: Encourage young scientists to develop strategies for communicating science to the public through diverse, community-oriented activities on research to provide food, feed and fuel for growing populations facing climate change.

But, they're bench scientists, not social scientists, and not very comfortable talking to the public about science.



That's where CLEAR comes in.

Four activity areas, driven by students' interests

CLEAR on Campus

CLEAR in the Classroom

CLEAR in the Community

CLEAR in the Capitol

This required them to talk with the public about sometimes difficult topics. I passed tips on to them and they passed back some of their tips to me!

When Facts Fail:
Tips for Communicating Science with Difficult People

Let's look at some specific advice from students

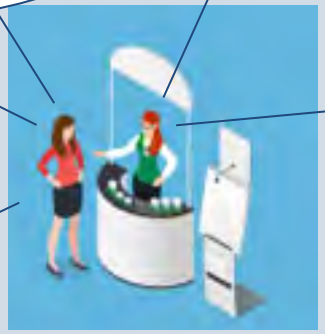
Modified from CLEAR students: V. Markham; T. Simmons 12-6-19

Sometimes we talk too much

Hi, what have you got here?

Hi! Today we're learning about the science of pigments!

Fun! So what can you tell me about pigments?

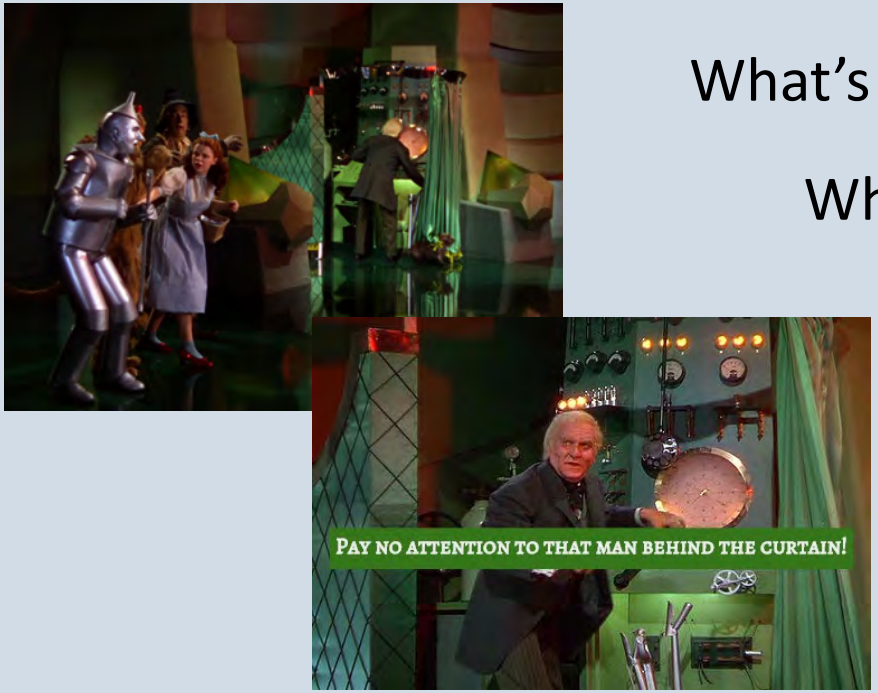


Hmm...what? Oh, yeah cool...

Well, over here we have a little chromatography experiment, where we're separating out the pigments in a plant leaf. See, actually leaves contain a lot of pigments, like chlorophyll which you might have heard of, that's what makes plants green. But there's other things called carotenoids and xanthophylls which impart a range of golden and red colors. By grinding up these leaves in alcohol, we're releasing all those pigments and separating them out based on their different chemical properties. Now you can see a green band for the chlorophyll and the additional pigments, which are also present in the leaf. In fact, that's revealed in autumn as the leaves start to die and photosynthesis stops so the chlorophyll…

Isn't that cool??

Why not ask questions to find out about them? Find interests in common



What's their view on the topic?

Why do they have those views?

Try to understand why.

Avoid taking a strong position

I'm pro-GMO!

I'm anti-GMO!

We need basic science!

Science has become corrupted by special interests!

Glyphosate is safe!

Glyphosate is a carcinogen!

Vaccines are safe and you should get them!

Vaccines are dangerous!

Try to understand other viewpoints

Difficult audience members can be <u>your</u> teacher, too

Listen to what they ask and say
Learn from them!

Everyone needs to be part of the discussion - use “polleverywhere” to find out more about your audience

https://www.polleverywhere.com/

Provide additional resources if possible

Government data

Newspaper pieces

Documentaries

Webinars

Journal articles

Podcasts

Blogs

Websites

Make sure they are factual and balanced

Thanks!

Peggy G. Lemaux, CES, UC Berkeley lemauxpg@berkeley.edu