Social Media for Science Communication

PAIGE BROWN JARREAU

What is social media?

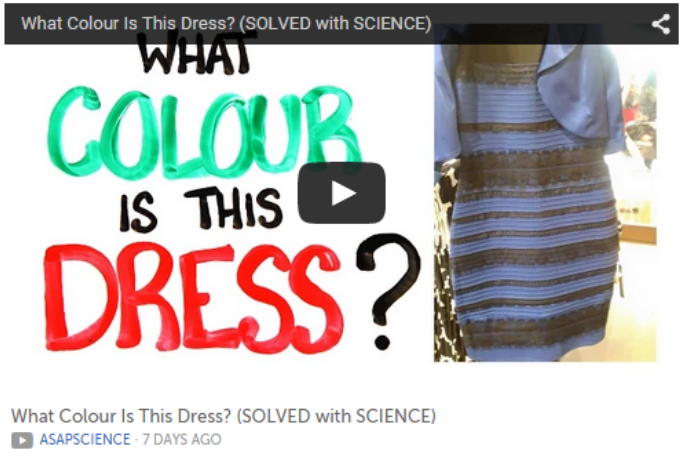
- Facebook
- Twitter
- Instagram
- Blogs
- SnapChat
- YouTube
- MailChimp

"Social media are Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others."
– Carr, C. T., & Hayes, R. A. (2015)

Social media for science communication – **Why is it important?**

"Social media platforms ... are *the* way the world is networking and communicating. They are *how* and *where* we share information – with friends, colleagues, acquaintances and any and everyone else."
– Christie Wilcox, Scientist, Science Writer/Blogger

- Scientists and science enthusiasts are increasingly taking to Twitter, YouTube, Facebook and blogs to communicate about science
  - E.g. YouTube science channels are explaining how everyday things work, conducting experiments and making science fun



19,808,428 views!

- Scientists are increasingly using social media to talk about or read about science
  - 47% of AAAS members surveyed in 2015 have used social media to discuss or follow science
  - *For comparison, 51% have talked with reporters about research findings*
  - 24% of AAAS members have blogged about science/research
  - 16% of scientists blog at least once a month about topics related to their research; ~1 out of 5 tweet about their research (Brossard *et al*., 2013).
  - Younger scientists tend to strongly support direct communication with lay audiences (Corley *et al.*, 2011)

“Scientists themselves are now embracing roles that were conventionally taken upon by trained science communicators.”

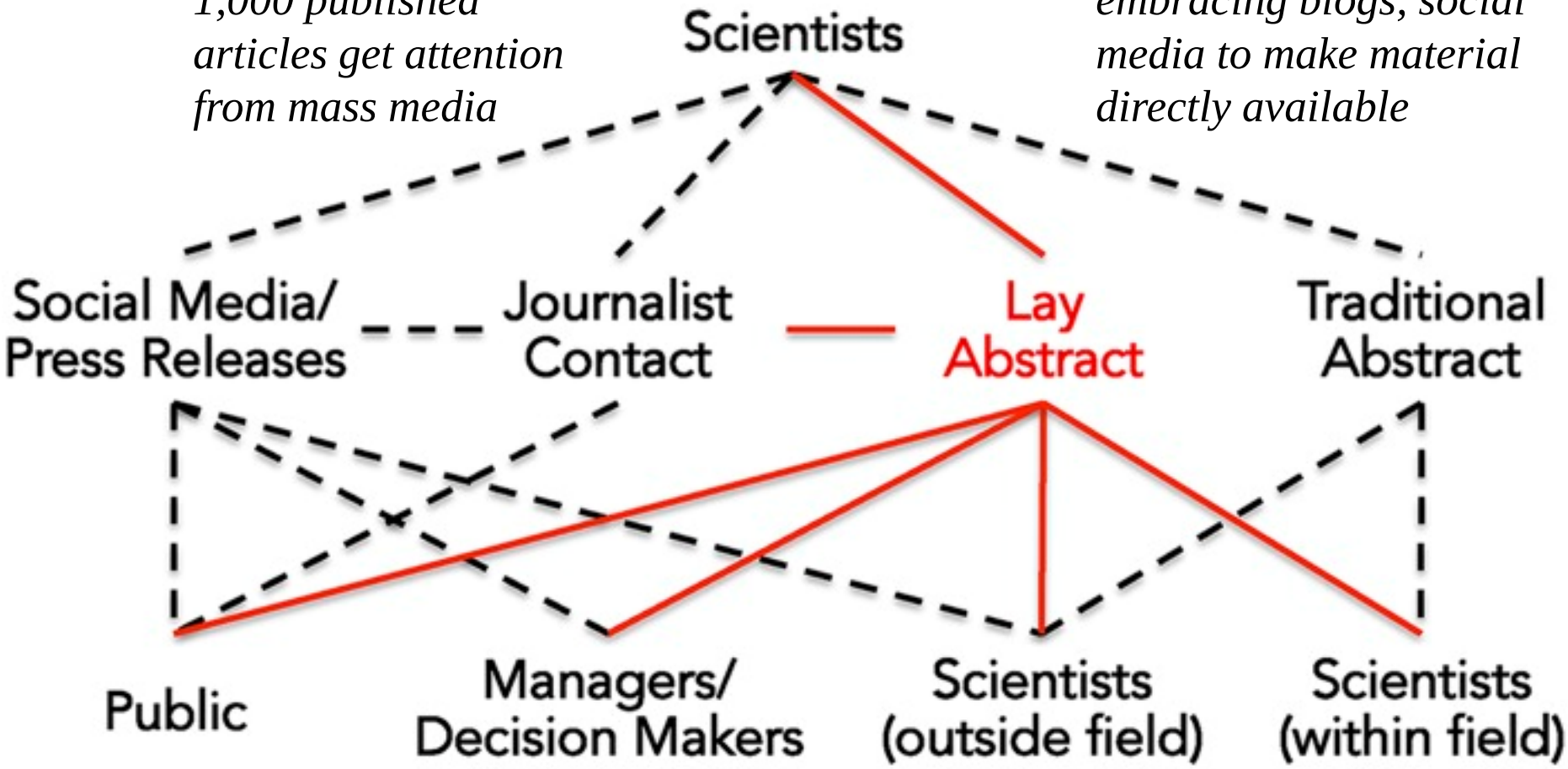
- Dominique Brossard

Pathways available for communicating research between scientists and end users

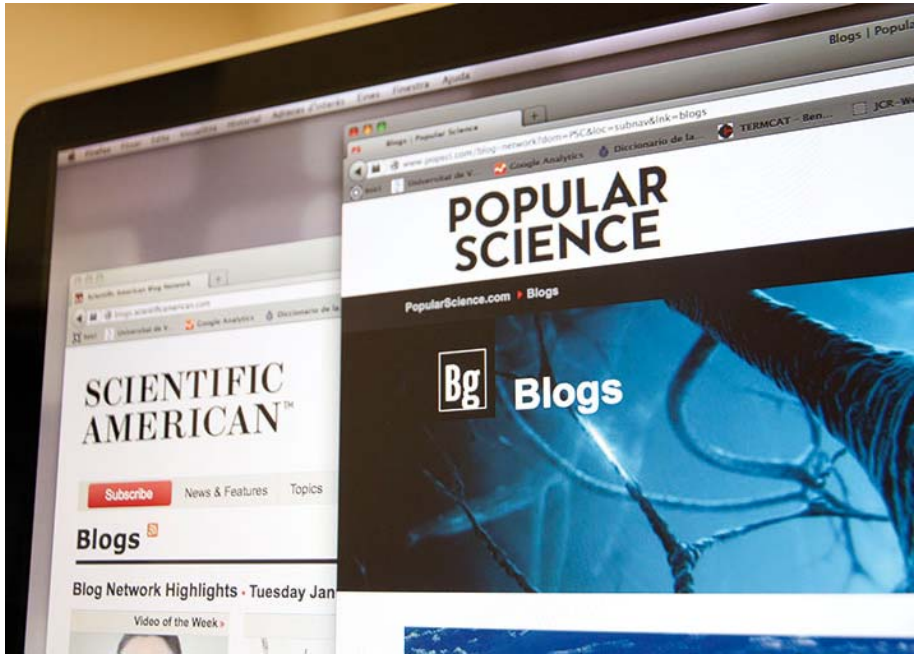
(Proc Natl Acad Sci U S A. 2015 Mar 24; 112(12): 3585–3586)

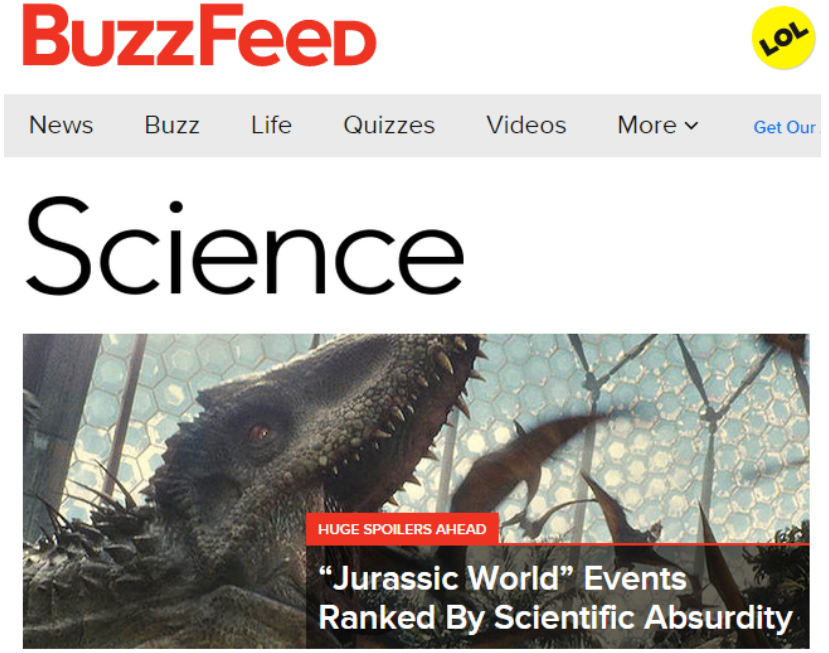
At most 3 of every 1,000 published articles get attention from mass media

More scientists are embracing blogs, social media to make material directly available



- Online and social media sources of science information and news have expanded as traditional sources of science journalism have suffered.

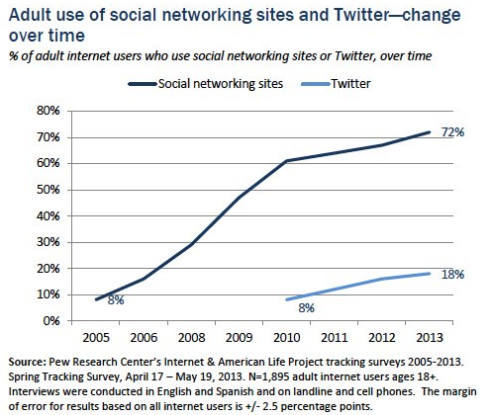


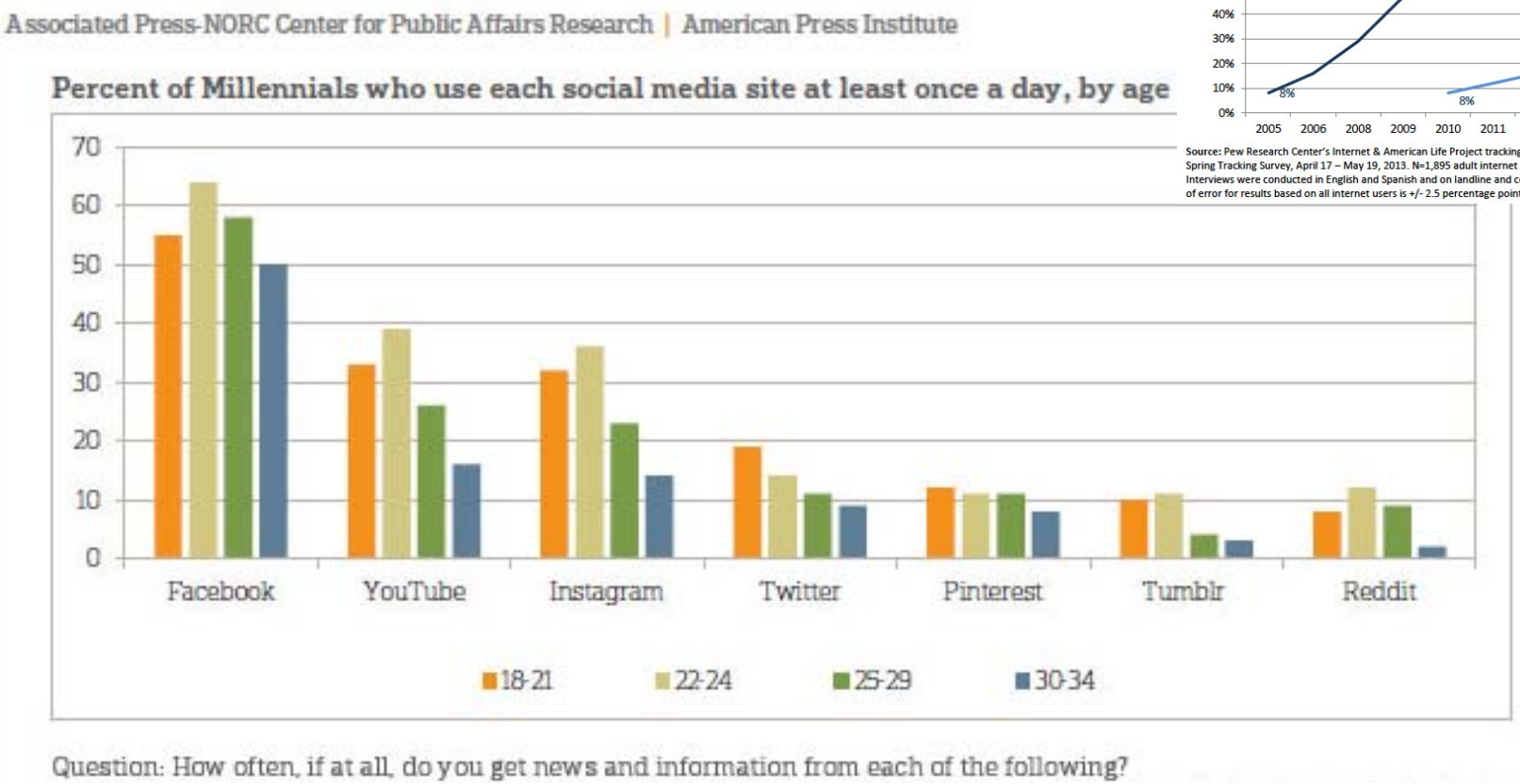


Non-traditional, «online only» sources of science news are increasing in number and credibility.

- Dominique Brossard

- The internet (and social media) has become a top source of science information for many Americans, especially those who follow specific areas of science and for younger Americans
- Social media use in general is on the rise



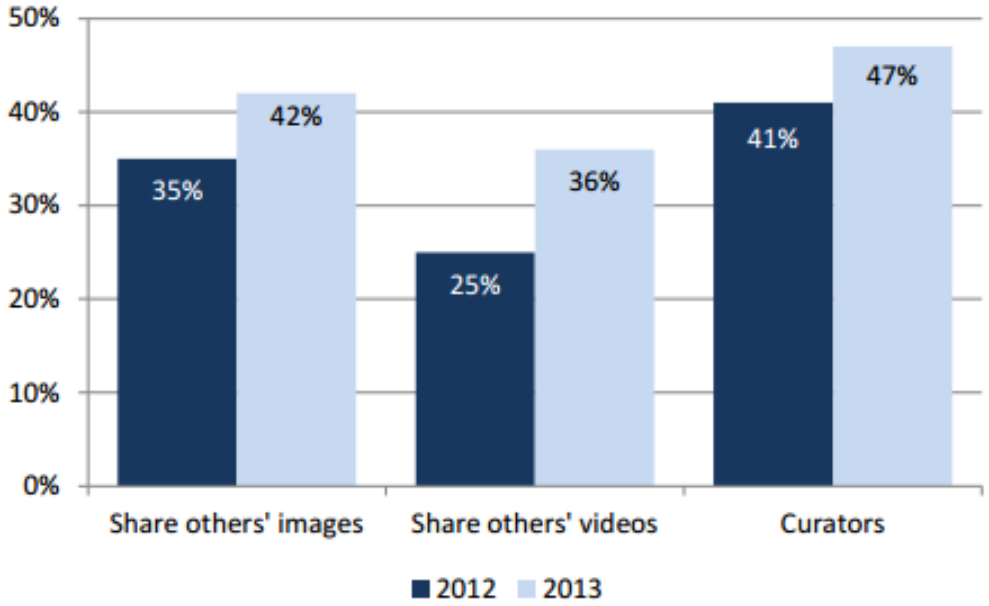


Trends in Social Media Use

- Photo and video sharing are growing online

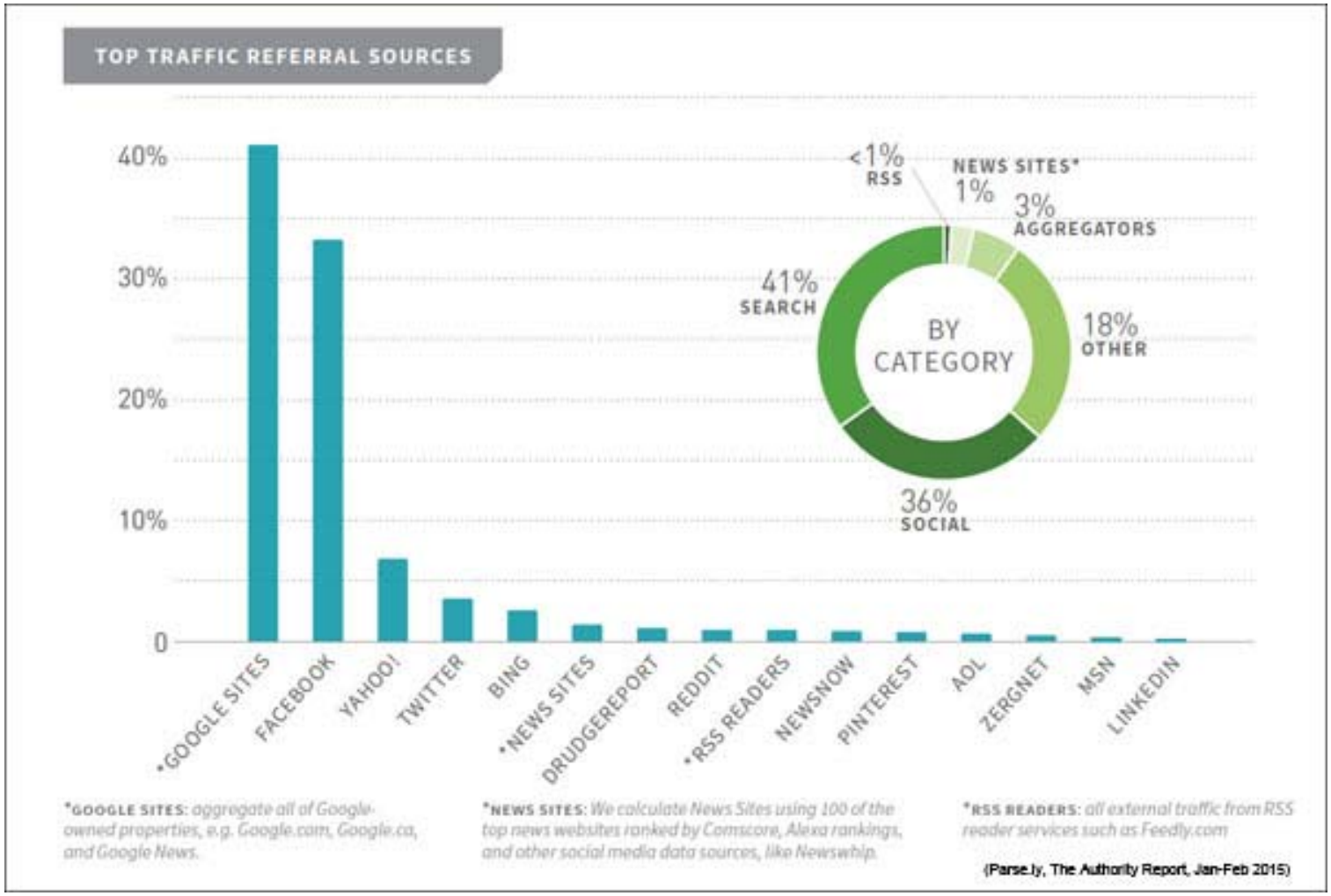
Online Curators: Sharing images and video from elsewhere on the web, 2012-2013

Among internet users, the % who have reposted images and videos they found elsewhere online and the % who repost both (curators)



Source: Pew Research October Omnibus Survey, October 3-6, 2013. n=852 internet users ages 18+. Interviews were conducted in English on landline and cell phones. The margin of error for results based on internet users is +/- 4.0 percentage points.

- Social networks including Facebook and Twitter are growing sources of traffic to news sites & other online content



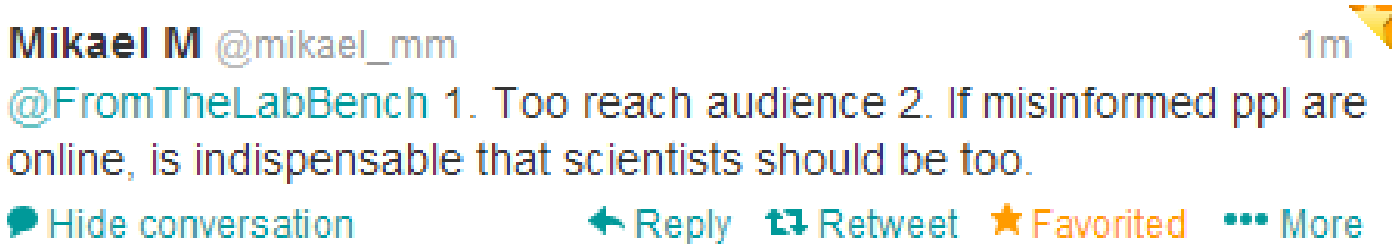
journalistsresource.org/

Social media for science communication – **Why should scientists use it?**

Why Should Scientists Use Social Media?

- Boost professional profiles
- Networking, recruiting students
- Reach new audiences
- Act as a public voice for science
- Make science accessible
- Online outreach can help get (NSF) funding!
- **Open science & collaboration**

"Those that have the privilege to know, have the duty to act."
- Albert Einstein.



Why Should Scientists Use Social Media?

- Studies show connections between public communication, increased visibility of research, and greater numbers of citations.
  - *Do altmetrics work? Twitter and ten other social web services*. PLoS One 2013
  - *Building buzz: (Scientists) communicating science in new media environments*. Journalism Mass Comm Quarterly 2014
- Scientists who engage in public communication tend to be more academically productive.
  - *Scientists who engage with society perform better academically*. Sci Public Policy 2008

Kimberley Collins @kimi_collins · 1m

@FromTheLabBench Here are the top benefits scientists see in using Twitter for #scicomm! @ShipLives @kirkenglehardt

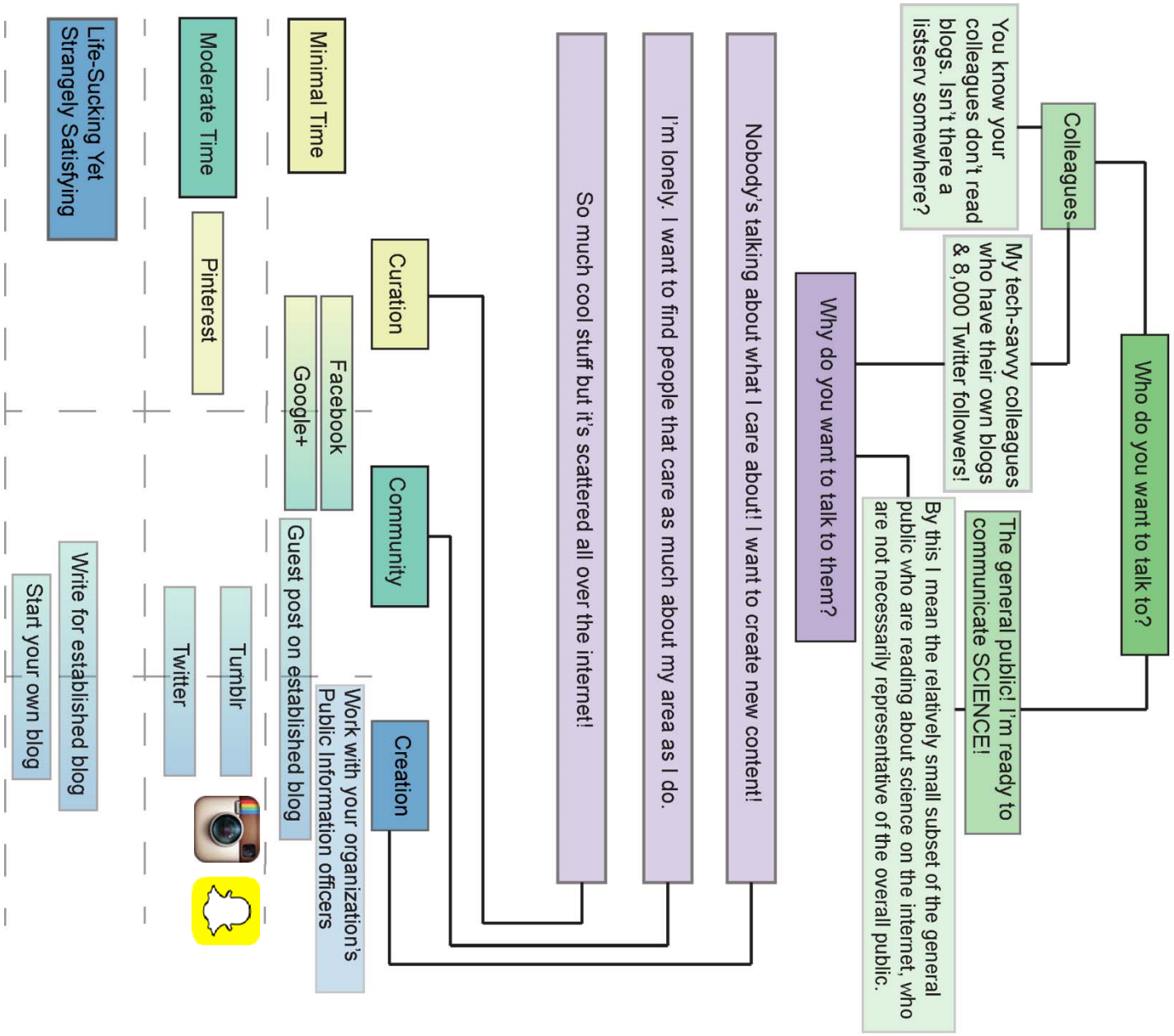
What are the benefits of using Twitter to communicate science?

1. Large, diverse potential audience.
2. Easy to communicate snippets.
3. Small time commitment.
4. It's accessible.
5. Networking & collaborating with other scientists.

1 1

View photo

So you want to communicate science online…

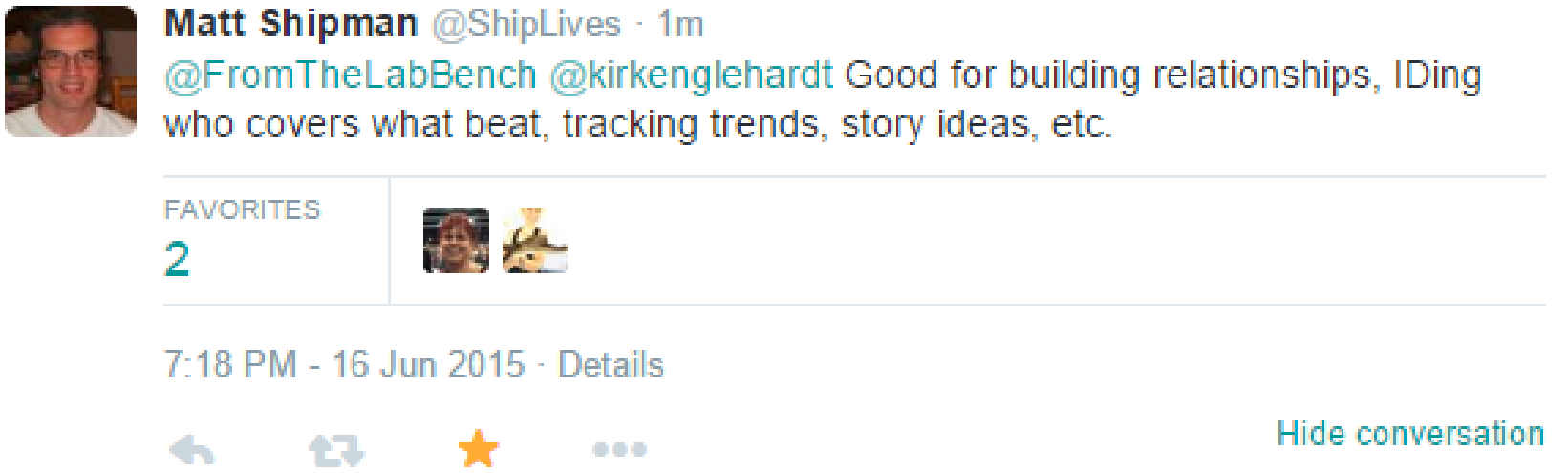


Holly M. Bik, Miriam C. Goldstein:
doi:10.1371/journal.pbio.1001535.g002

Social media for science communication – **University Communication**

How can social media help university science communicators?

- Getting story ideas, tracking current trends/topics
- Networking with science writers



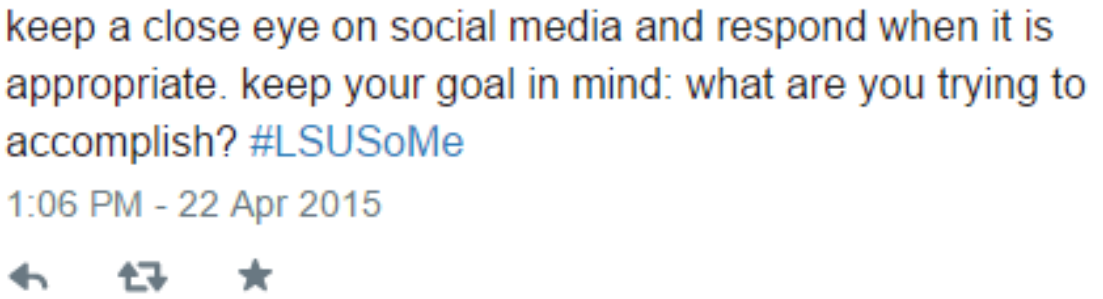
- Communicating directly with university publics
- Creating opportunities for scientist-public interactions

Social media not only allows public relations practitioners to reach out to and engage their publics in conversation, but also provides an avenue to strengthen media relations.

N. Eyrich, M. Padman, K. Sweetser (2008)

So you want to use social media for SciComm…

- Remember:
  - Social media is SOCIAL. Two-way communication and engagement is **key**.
  - Respond.



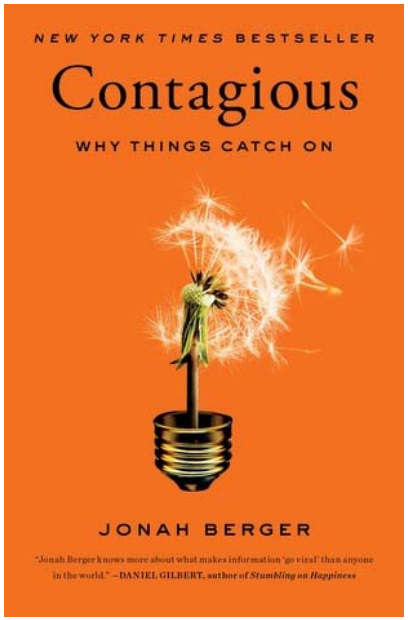
  - Social media isn't a replacement for interesting, original, useful and compelling content.

Social media are naively treated like just another one-way broadcast media — useful tools for making an organization's voice heard.

Kent (2015)

What gets shared?

- **Social Currency** – give people something to talk about; make them feel like insiders
- **Triggers** – *What gets more word of mouth on social media, Cheerios or Disney World? Hint – think "daily."*
- **Emotion** – science news articles are often on the top emailed lists



Share-inducing emotions are high arousal (awe, excitement, humor, anger, anxiety) not sadness or contentment

"Simply put, it was amazing."
- Contagious

The Mysterious Cough, Caught on Film

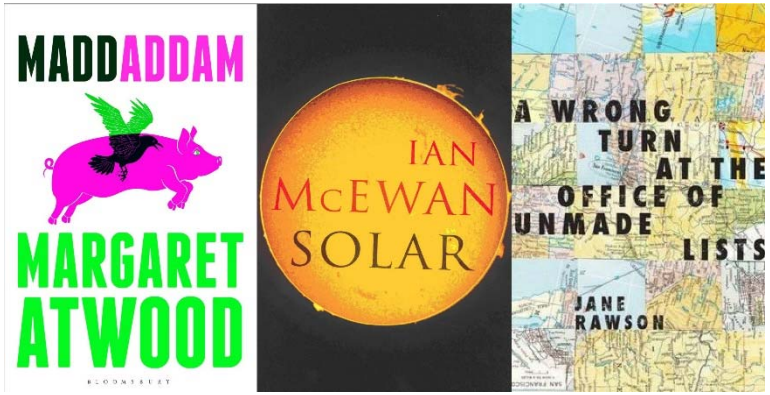
By DENISE GRADY
Published: October 27, 2008

In Roald Dahl's novel "The B.F.G.," the title character, a big friendly giant, captures dreams in glass jars. At Pennsylvania State University, a professor of engineering has captured something less whimsical but no less ephemeral — a cough — on film.

What gets shared?

- **Public** – can people SEE it? Make it visual (think bright yellow LIVESTRONG wristbands; Tidy Streets)
- **Practical Value** – *Is this useful information?*
- **Stories** – Stories are fundamentally about social interaction – and social interaction is central for human beings.

"Fiction is great – it can help us really feel the horror of what we're headed for, change our lives in a deeper way than scientific projections alone could do, and give us ideas to help us adapt to the change." – Jane Rawson



Narrative structures have been proposed to enhance popular interest in **science**.

- History – the history of a field, of a scientific discovery
- The scientist's story
- Drama – a problem that science can or has solved
- The "hard-fought" discovery
- The (solved or unsolved) mystery
- The untold story

A Current Trend
– Fun story profiles of scientists

Tag: what science looks like

May 11, 2015

This Is What Science Looks Like at NC State: Warren Sconiers

Entomologist Warren Sconiers has traveled from southern California to Texas to North Carolina in his pursuit of better understanding the relationship between insects and the environment. →

May 7, 2015

This Is What Science Looks Like at NC State: April Hamblin

Entomology student April Hamblin explains how her love of books evolved into a desire to study and understand the natural world. →

Apr 6, 2015

This Is What Science Looks Like at NC State: Danisha Garner

How touring a food processing facility got one young woman interested in food safety – and led to graduate school at NC State.

Science Communication with Social Media 101

Think about your Goals

- What do you want out of your social media experience?
  - Increased citations for your papers?
  - Increased visibility of your research?
  - Outlet for opinions?
  - Collaboration?
  - Open data and sharing?
  - Translation of science for broad audience?
  - Engagement with key audiences?
  - Media coverage?
  - Recruiting?
  - Feedback?

Think about your Audience

- Don't assume all social media platforms are created equal in terms of audience
- Younger audiences? Snapchat, Tumblr, Instagram… *Unlock hidden beauty in your science*
- Female audiences? Pinterest… *BuzzFeed's #2 source of social media traffic*
- Journalists? Twitter (largely a news source)…
- Other scientists? Twitter, Facebook…
- Wide audiences? Facebook (home-base)…

71% of US Internet users are on Facebook. – Heidi Cohen

A good start:

- Choose 2 key social media outlets to focus on
- Follow social media accounts of scientists, science communicators, science bloggers, science journalists, others w/ similar interests
  - (Twitter, Facebook, Instagram, Google+, LinkedIn)
- Bring your science to the blogosphere
  - Scilogs.com has a guest blog
  - Medium.com
  - Start your own blog (Wordpress, SquareSpace, Blogger, Blogspot)

THE CONVERSATION

Academic rigour, journalistic flair

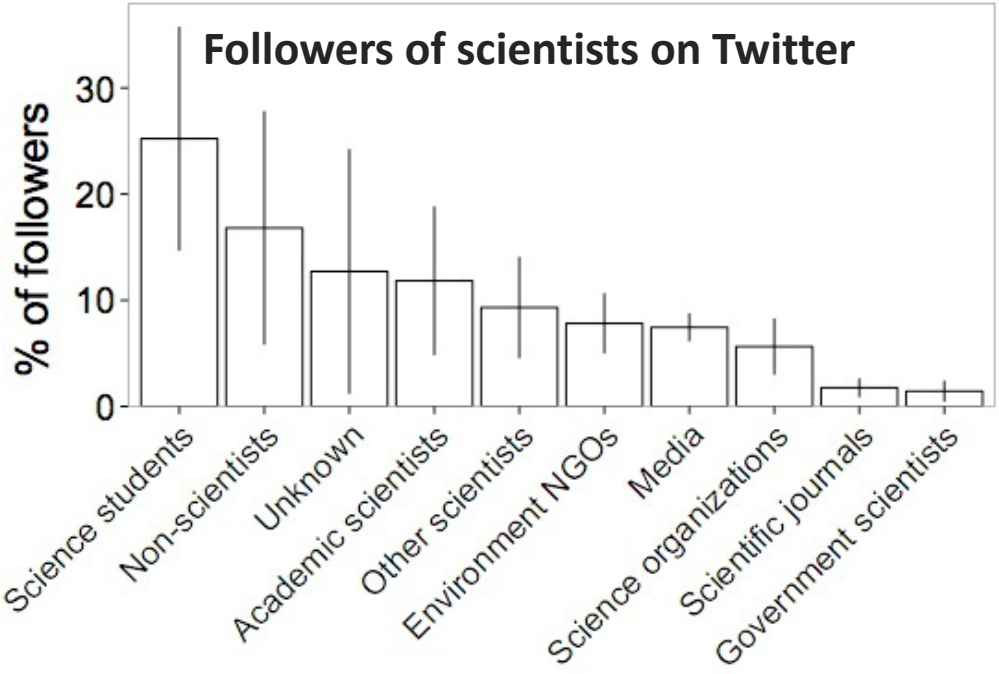
News written by academic experts:
Become an author @
https://theconversation.com/become-an-author

#fridaynightscience
#SciComm
#SciArt
#CitizenScience
#Conservation

#WomenInSci
#STEM
#ECRchat
#ScienceMatters
#openscience

Early career researchers

The 140-character microblogging service Twitter has been popular for #scicomm.



"A virtual department to spark and share new ideas"

"A great complementary tool for an online presence – don't rely on it as your only presence. Most active engagement happens immediately, i.e. when two people are on Twitter at the same time." - ecologyisnotadirtyword.com

Emily Darling. figshare. http://dx.doi.org/10.6084/m9.figshare.704858

TWEET YOUR SCIENCE

A new database of scientists online, searchable by research interests and field of study.

Sign up for the Scientist Database

Edit your current listing

Paige Brown

Paige Brown

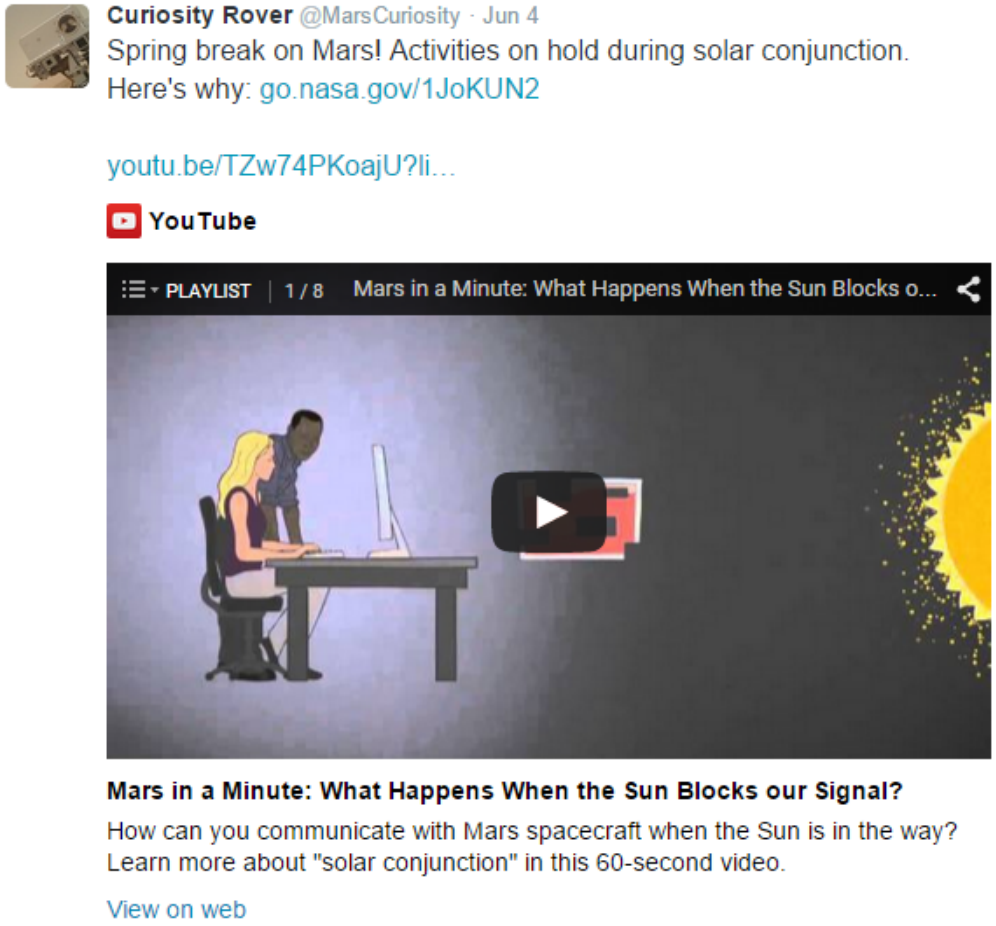
Location: United States of America (USA)
Institution: Louisiana State University
Department/Field: Science Communication, Environmental Science
Research Interests: Practices, Norms and Values in Science and Environmental Communication, Message Effectiveness in Science and Environmental Communication, Public Opinion of Science, Pro-Environmental Values and Behaviour Modification, Science Education.
Twitter: @fromthelabbench
Website: http://www.scilogs.com/from_the_lab_bench/

How can you use Twitter?

- Tweet about new published research
- Live-tweet science events on campus
- Share blog posts and other online stories/materials
- Tweet live Q&As with researchers – Tweet-chats!
- Network

What can you Tweet about

- Storytelling



Other Online Tools

- Blogs – *continuous, long-form science narratives*
  - Blogs are a leading source of online news (Johnson, Kaye, Bichard, & Wong, 2007).
- Facebook – *networking*
- Digg, Reddit – *content aggregation*
- Twitter – *in the moment conversation, customized news streams, building and maintaining communities*
- Instagram – *visual, simple content*
- Snapchat – *short video clip storytelling*

Science Blogging

- “a really light, lean, and flexible web platform… a really cheap way to disseminate information.” – Carol Clark, senior science communicator at Emory University
- “The blog gives you a great amount of narrative possibility and you can use that to reach out to reporters.” – Matt Shipman, science communicator at NC State
- “If you won’t be able to do it well, you probably shouldn’t do it.” – Matt Shipman

Science Blogging at Institutions

- Ask scientists to contribute guest posts
  - Early career researchers might be more keen
- Add an editorial twist to something the media is already covering
- Post expert Q&As
- Buzzfeed-type “listicles” and video posts are especially popular
- Always approach the story as reporters, while still maintaining relationships with researchers
- It’s OK to be conversational!

EMORY UNIVERSITY

eScienceCommons

WHERE SCIENCE MEETS SOCIETY

Home | About | Video | Contact | The Science Scene

http://esciencecommons.blogspot.com/

Emory University
Research news

Anthropology Bioethics **Biology** Chemistry Climate change Community Outreach Ecology Economics **Health** Humor/Fun Mathematics and Computer Science **Neuroscience and Behavioral Biology** Physics **Psychology** Science and Art/Media Science and Spirituality Sociology

The Science Scene

Monday, June 15, 2015

A paleontologist explains why 'Jurassic World' stinks

That transport sphere will not look so crystal clear after it rolls across a steaming pile of triceratops dung.

Emory palentologist Anthony Martin wrote about the new movie "Jurassic World" from a scientific perspective. Below is an excerpt of his article, which appeared in The New Republic, among other outlets:

The Jurassic's back

Subscribe to this blog

- Biologist Berry Brosi on Obama's 'plan bee'
- Why 'Jurassic World' stinks
- Stone tools point to dawn of division of labor

Key points in our past

“The standard I try to uphold for content is that it must be a published discovery, or a topic that is newsy or quirky enough to be of interest beyond the Emory campus.”

- Carol Clark, senior science communicator at Emory University

So you want to blog about science?

- Make sure you have the time and resources before you start
- Know your audience and your goals
- Who are you trying to reach, and why?
- Determine some objectives in advance
- Decide upon and develop a voice
  - “I’ve tried to **cultivate a collective voice** for really nerdy, geeky fundamental science. Whenever possible, it leans toward quirky and fun.” – Carol Clark, Emory
- Don't be afraid to use the blog as a pitching tool for reaching reporters – Matt Shipman
- “DON’T start a blog to say that same thing again in a different format.” – Rachel Ewing

Include great headlines, quotes, and photos – things that also promote sharing on social media.

Thursday, February 16, 2012

Fruit flies use alcohol as a drug to kill parasites

By Carol Clark

Fruit flies infected with a blood-borne parasite consume alcohol to self-medicate, a behavior that greatly increases their survival rate, an Emory University study finds.

"We believe our results are the first to show that alcohol consumption can have a protective effect against infectious disease, and in particular against blood-borne parasites," says Todd Schlenke, the evolutionary geneticist who led the research.

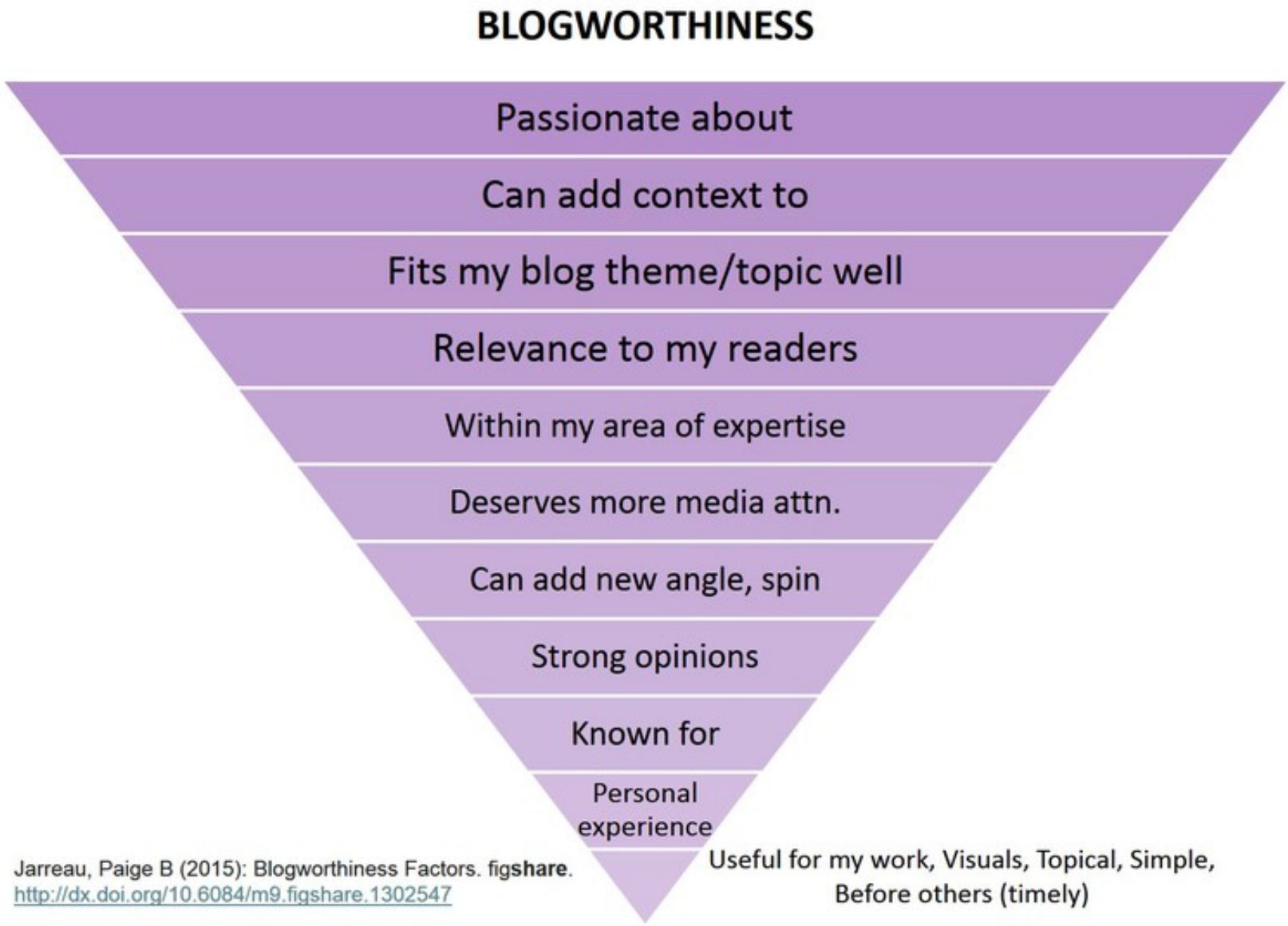
What to blog about?

- You might blog about…
  - Ideas / stories you want to pitch to the media
  - Published discoveries as an alternative to news releases (you can still pitch a blog post to reporters)
  - Are there popular topic in the media that your scientists can comment on?
  - Pull from alumni magazine, LSU scientists' blogs and social media channels – offer a new angle on a story covered in another institutional publication
  - Reuse news media coverage (e.g. the story behind the media placement; a closer look)
  - Invite posts from not just faculty, but students
  - Experiment with formats and multimedia-driven posts
  - Talk to professors about their hobbies

How should you approach an institutional science blog?

- Storytelling as a reporter (but still run it by the subject of the post)
- Check the facts
- Flesh it out with other sources
- Have a good hook and a good lede
- Link to original research publications
- Link!
- Pull academics out of their comfort zone
- **Don't hype**. More and more evidence is building that science public relations plays an important role in determining the accuracy of news coverage.

What is blogworthy to other science bloggers?

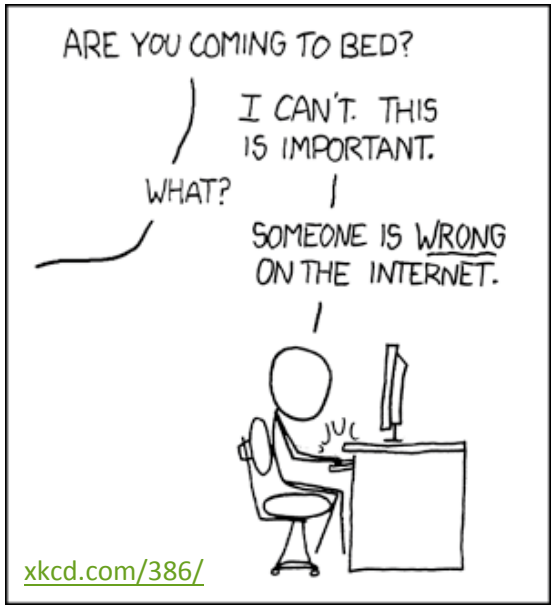


Jarreau, Paige B (2015): Blogworthiness Factors. figshare. http://dx.doi.org/10.6084/m9.figshare.1302547

Trends in Science Blogging

- Rise of a science blog ***ecosystem***
- Increasing role of science blogs and social networks (Twitter) in science communication and science news

- Traditional blog functions
  - Debunking
  - Expert opinions
  - Media Criticism
  - Community building among scientists
  - Translation of scientific research



- New blog functions
  - Science journalism
  - Sources of science news
  - Curation
  - Critical analysis
  - Discussion of science missing from mainstream media
  - Opening up the science research process
    - Citizen science, etc.
  - **Adding value and advancing the conversation around scientific issues**

Pitching in the Blogosphere

- LiveScience has section called Expert Voices, an online op-ed site for science and technology. You can pitch your scientist-written posts to them.

Beyond Dinosaurs, What Would We Need to Create a Jurassic World?

June 13th, 2015

No matter how thrilling this movie may be, one question will plague me throughout: where are the dung beetles?

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Expert Voices: Op-Ed & Insights

LiveScience invites experts in science & technology to provide insightful commentary and informed perspective on news, current events, innovations, big ideas and ongoing research. Expert Voices includes Op-Ed analysis and opinion as well as interesting

Read More

Pitching in the Blogosphere

Data from #MySciBlog Survey by Paige Brown Jarreau

Means for blog post sources, in order of overall frequency with which science bloggers use these sources for story ideas, on a scale of 1 (Never) to 5 (Always).

Source	*Mean*	*SD*
Peer-reviewed journal article(s) (Google/library search)	3.11	1.08
Peer-reviewed journal article(s) (media, social media link)	3.03	1.04
Twitter	2.91	1.08
Online news media	2.89	1.08
Your own scientific research	2.80	1.24
Scientific conference	2.79	.97
Direct suggestions, requests by others	2.60	1.03
Blog by a working scientist	2.58	1.01
Other non-news media (books, movies, etc.)	2.43	.98
Other blog	2.43	1.01
Other social network site	2.40	1.03
Press release	2.34	1.08
Professional/Other conference (e.g. ScienceOnline)	2.31	1.11
Print news media	2.28	1.12
Peer-reviewed journal table of contents	2.26	1.21
Press conference	1.70	.91

“To me, science isn’t about being told by scientists that ‘this is science’ but for people to build an understanding and engagement with science in their own way.”

- Science blogger George Aranda,
AKA @PopSciGuyOz

Thinking outside the box with social media…

Buzz Hoot Roar

Blogging driven by visuals

For Love or Supper: Why Critters Light Up

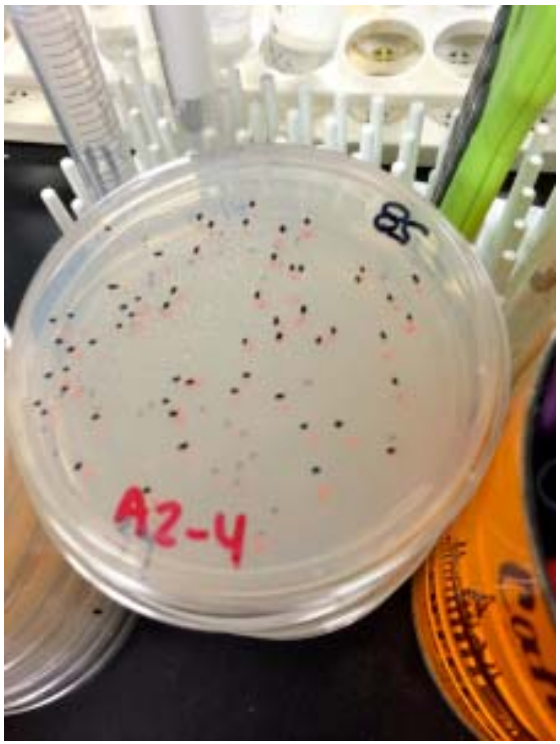
Breaking news: Hundreds of underwater species radiate neon greens, reds and oranges as they shimmy through the ocean's depths.[1] But sea creatures aren't the only animals at ease in the limelight. Buzz Hoot Roar guest-author Matt Shipman offers a few good reasons why sea *and* land animals put on the ultimate light show.

1. TO SPOTLIGHT THEIR NEXT MEAL. ONE OF THE ONLY FISH TO PRODUCE RED LIGHT, THE STOPLIGHT LOOSEJAW (MALACOSTEUS NIGER) EMITS A ROSY GLOW FROM ORGANS LOCATED NEAR ITS EYES.

2. TO WOO (OR TRAP) THEIR ONE TRUE LOVE. MALE BIG DIPPER FIREFLIES (PHOTINUS PYRALIS) USE THEIR LIGHT-UP BOTTOMS TO FLASH SIGNALS AT FEMALES.

THIS IS, OF COURSE, DOUBLY DISAPPOINTING FOR THE MALES.

Student Lab Visits - https://scicommlsu.wordpress.com



Mass communication students going into science labs on campus to tell stories from the inside…

Being Accurate

- You CAN maintain scientific accuracy and rigor in your blog posts and social media posts.
  - Link to original research studies
  - Remember proper attribution to pictures, statistics, quotes, etc.
  - Learn to be concise but avoid buzzwords that can be misleading (“cure” “breakthrough”)

Diversity and Ethics

- Go to extra lengths to incorporate female and minority voices for science.
- Be very aware of how your communication of science in social media might be interpreted by others.
- Scientists often occupy positions of power that must be acknowledged and used responsibly (e.g. senior scientists not promoting sexist views / creating environments where open feedback is welcome and readers feel safe to express themselves).
- Public trust in scientists remains high – let's keep it that way.

So what is the future of science communication? Newspaper science columns are not the main source of science news for lay audiences anymore, and even if popular science magazines have a loyal readership, these may not always be the channel of choice for those interested in a scientific topic. In other words, we cannot talk anymore of science writers being the main interface between scientists and the public.

- Dominique Brossard, Science, Its Publics and New Media (2013)

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