

The Importance of science communication

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What is FameLab?

- International communications competition
- Aims to identify, train and mentor scientists and engineers with a flair for communicating with public audiences.
- Started in 2005 in the UK by Cheltenham Science Festival; partnership with British Council in 2007 sees competition going global; in 2012 NASA joins to run the competition in the USA.
- So far more than 5000 young scientists and engineers participating in over 25 different countries from Hong Kong to South Africa, USA to Egypt have taken part.

So what? (Why) should scientists
communicate?

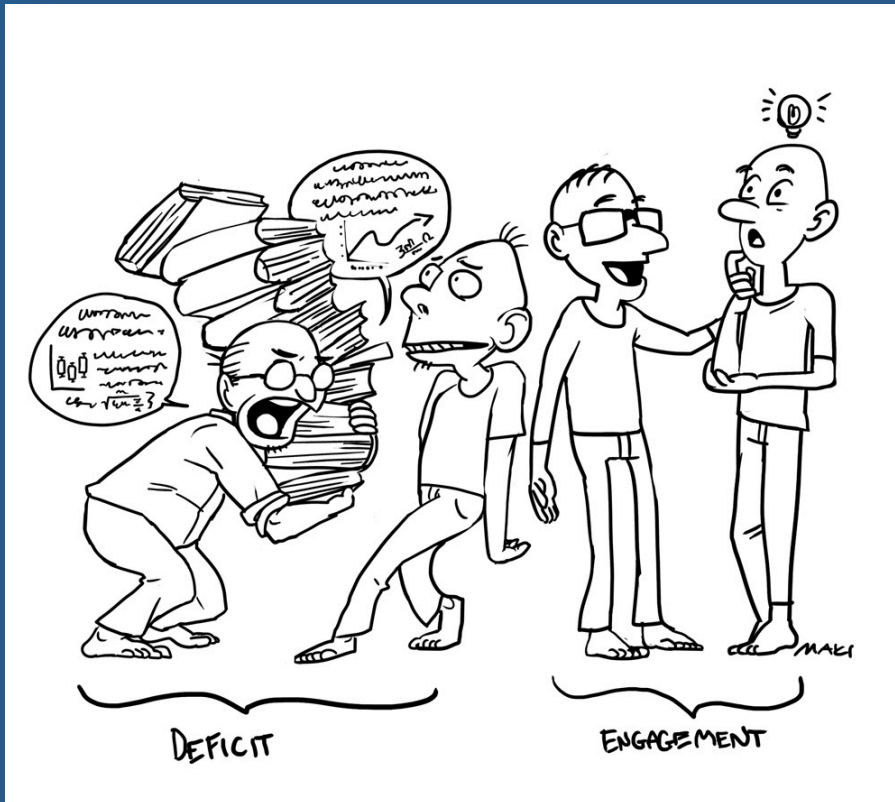
What do you think?





FameLab 2013 International Winner
Fergus McAuliffe (Ireland)

Why communicate



- > Benefits for the researcher
- > From a university perspective
- > Benefits to public participants
- > Benefits to society
- > Benefits to policy makers

Public perceptions of Science

75% of the UK public agree that *“we ought to hear about potential new areas of science before they happen, not afterwards”*

75% believe academics should listen more to what ordinary people think

Over half believe that scientists pay insufficient attention to potential risks

In the UK **£800m** per year spent on widening participation projects



Why communicate

Researcher perspective

“My public engagement activities have given me a new perspective and broader outlook to my own research work. For example, I have recently collaborated with a microbiologist, applying quantum mechanics to biology, which arose from new contacts.”

Professor Jim Al-Khalili Prof. of Physics and Senior Media Fellow at The University of Surrey; presenter BBC Radio 4 - “The Life Scientific” ; BBC 2 – “Horizon”; BBC 4 – “Atom”



Why communicate

“Engaging the public ... can directly improve the **depth and quality** of that interpretation and feedback into new research questions which has added a new dimension to my research”

Professor Alan Winfield of The University of the West of England, Bristol. Leader of Walking with robots, a project that took the UK’s intelligent robotics research to the public, reaching close to 80,000 people over three years

“Developing my public engagement skills has helped me in briefing the courts on stabbing incidents.”

Professor Sarah Hainsworth of The University of Leicester

Why communicate

Benefits for the researcher

- Ensures researchers stay 'in tune' to social and ethical issues
 - 75% of the UK public believe academics should listen more to what ordinary people think
 - Over 50% believe that scientists pay insufficient attention to potential risks

For example: Cell biologist **Dr Kelly BéruBé of Cardiff University**, research focuses on pollutant-induced lung disease → Joins panel discussion at Cheltenham Science Festival → **50 worldwide media items** on the research → invited to speak at House of Lords to politicians about use of human tissue in clinical drug trials, to push for a regulatory requirement

- Priceless feedback
- Raising your profile ...
- Better quality grant applications
- Developing skills
- National / global data collection – citizen science



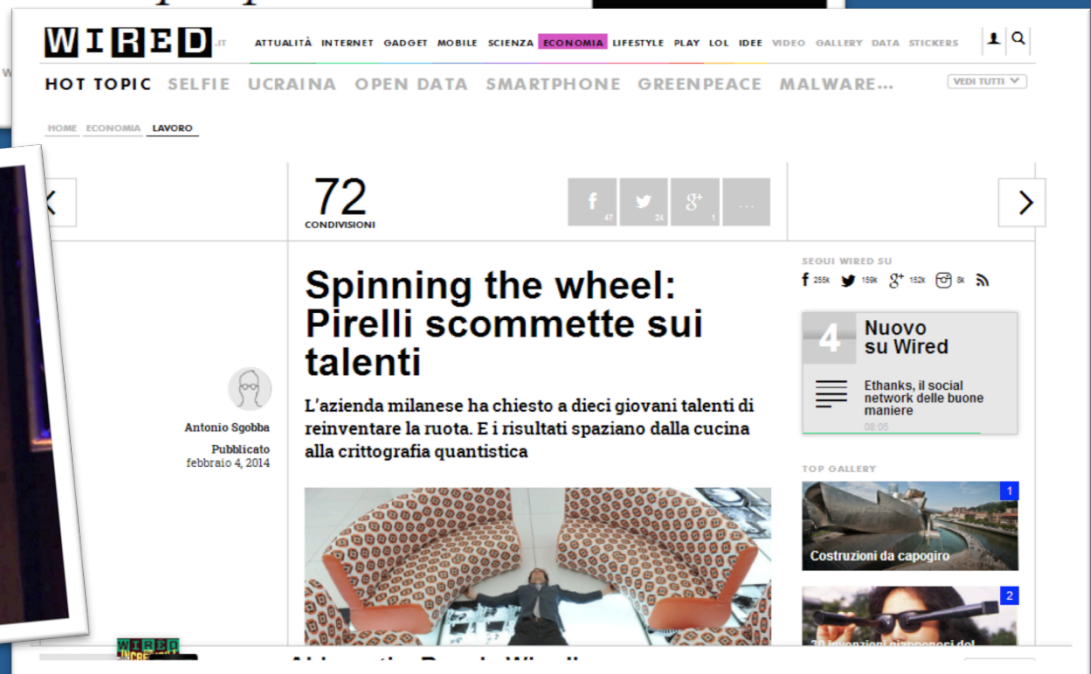
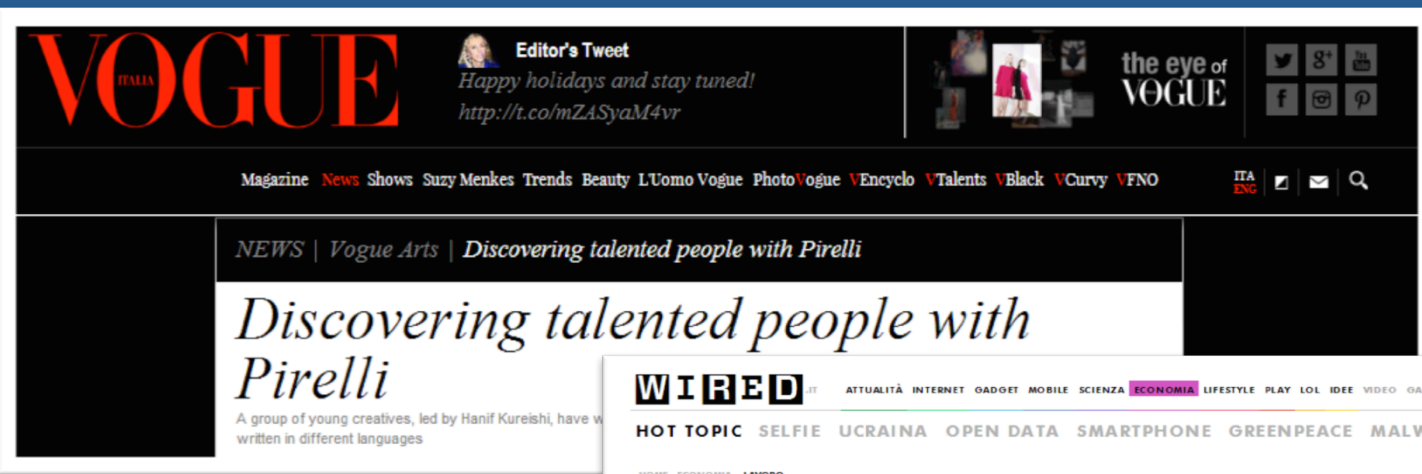
The screenshot shows the AAAS Science website. At the top, there is a search bar and navigation links for NEWS, SCIENCE JOURNALS, CAREERS, MULTIMEDIA, and COLLECTIONS. Below the navigation, there is a grid of 50 small profile pictures of scientists, titled "The top 50 science stars of Twitter". To the right of the grid, there is a "POPULAR" section with a list of trending topics, including "Speaking a second language may change how you see the world", "Researchers may have solved origin-of-life conundrum", "Mysterious 'snow carrots' observed at meteorite impact sites", "New drug for Crohn's disease targets RNA", and "Scientists may have solved mystery of dwarf planet's enigmatic bright spot". At the bottom, there is a "Tweets" section with a tweet from @NewsFromScience about experimental Alzheimer's treatment results.

Why communicate

University perspective

- It helps universities adapt to a changing world
 - Accountability and transparency
 - Trust and license to practice
 - Relevance
 - Responsiveness
- It enriches the institutions research and learning
- It strengthens and enriches the university's brand and identity
- Increases public appreciation and support for higher education and research

Benefits for the researcher FameLab winner – Fergus McAuliffe



Why communicate

Benefits to public participants

- Influence – value of having views seriously considered
- Learning – new interest, knowledge and skills
- Increased confidence in using scientific information
- Social interaction and personal satisfaction
- Greater trust in public policy making



Why communicate

Benefits to society

- Public engagement helps to **maximise the flow of knowledge** between higher education institutions & societies
- It **contributes to social justice and corporate responsibility**
- It helps build trust and mutual understanding

e.g. In the UK over 75% of the public agree that “we ought to hear about potential new areas of science before they happen, not afterwards”

- It generates unforeseen outcomes, stimulates creativity and innovation
 - Fresh perspectives
 - Challenging questions
 - Lateral insights



Citizen Science – Galaxy Zoo

Need to classify **one million galaxies**? No problem ... with 250, 000 amateurs!

CLASSIFY STORY SCIENCE **GALAXY ZOO** DISCUSS PROFILE LANGUAGE

f t g+ r

Few have witnessed what you're about to see

Experience a privileged glimpse of the distant universe as observed by the SDSS, the Hubble Space Telescope, and UKIRT

Classify Galaxies

To understand how galaxies formed we need your help to classify them according to their shapes. If you're quick, you may even be the first person to see the galaxies you're asked to classify.

[Begin Classifying](#)

Citizen Science – Fold it



foldit BETA

07:00:26 GMT

Solve Puzzles
for Science

PUZZLES CATEGORIES GROUPS PLAYERS RECIPES CONTESTS
BLOG FEEDBACK FORUM WIKI FAQ ABOUT CREDITS



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Linux Beta

Linux
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nature

International weekly journal of science

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Archive > Volume 466 > Issue 7307 > Letters > Article

NATURE | LETTER
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Predicting protein structures with a multiplayer
online game

Seth Cooper, Firas Khatib, Adrien Treuille, Janos Barbero, Jeehyung Lee, Michael Beenen,
Andrew Leaver-Fay, David Baker, Zoran Popović & Foldit players
Affiliations | Contributions | Corresponding authors

Nature 466, 756–760 (05 August 2010) | doi:10.1038/nature09304
Received 22 January 2010 | Accepted 30 June 2010



NANOCRAFTER Try our new scientific discovery game!
Be creative and build extraordinary tiny machines!

<https://fold.it/portal/>

Changing cultures: reaching audiences, open source publishing & broader engagement

How journals like Nature, Cell and Science are damaging science

The incentives offered by top journals distort science, just as big bonuses distort banking



Randy Schekman

The Guardian, Monday 9 December 2013 19.30 GMT

Jump to comments (278)

theguardian

News | Sport | Comment | Culture | Business | Money | Life & style

News > Science > Peer review and scientific publishing

Nobel winner declares boycott of top science journals

Randy Schekman says his lab will no longer send papers to Nature, Cell and Science as they distort scientific process

HEAD SQUEEZE

0:21 / 3:38

How do insects fly? - Sci Guide (Ep 25) - Head Squeeze

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Commentary

June 13, 2010

We Must Stop the Avalanche of Low-Quality Research

By Mark Bauerlein, Mohamed Gad-el-Hak, Wayne Grody, Bill McKelvey, and Stanley W. Trimble

Michael Glenwood for The Chronicle

Enlarge Image

Everybody agrees that scientific research is indispensable to the nation's health, prosperity, and security. In the many discussions of the value of research, however, one rarely hears any mention of how much publication of the results is best. Indeed, for all the regrets one hears in these hard times of research suffering from financing problems, we shouldn't forget the fact that the last few decades have seen astounding

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4. Ouster in Hawaii Highlights Tension Between a Flagship and Its System

Why communicate

Benefits to policy makers

- Better policy solutions, policy and decision making process
- Savings of time and money
- Spreading public awareness & understanding of science issues

Who puts the science in MPs' in trays?

It's an uphill struggle to get science on politicians' agenda. Is the Parliamentary Office of Science and Technology up to the task?

Adam Smith

theguardian.com, Friday 8 June 2012 13.20 BST

Kicking down the doors: how to give scientific advice to governments


With just one British MP having a scientific background, the people who run the country clearly need some expert advice

Science and politics: chalk and cheese?

Science may be vital, but the people with scientific knowledge seem less connected than ever to the people with power

Adam Smith

theguardian.com, Friday 4 May 2012 07.30 BST

 Jump to comments (59)

Why communicate

In summary:

- Skills development
- Career enhancement
- Enhancing your research quality and its impact
- New research perspectives
- Higher personal and institutional profile
- Influence and networking opportunities
- Forming new collaborations and partnership
- Enjoyment and personal reward
- Additional funding
- Increasing awareness of the value of research to society
- Increasing student recruitment
- Inspiring the next generation of researchers



Why communicate

How / resources:

- (Inter)national Science Associations
- Media Fellowships
- FameLab, Pint of Science, Bright Club, Science Show Off
- Institute of Physics, STEMNET , RSC, RAEng, Royal Society
- Science Festivals – e.g. World Science Festival, Science Slam Festival, UNESCO ciencia & cultura programme
- University communication / public engagement teams
- Popular science magazines e.g. *New Scientist*, *Scientific American*
- Social media and blogs
- Science Media Centre [...](#)

Tomorrow– Flash talk training

Aims:

- “I understand why being involved in public engagement alongside my research can benefit my research and wiser society”
- “I’ve a better idea of science communications opportunities I might pursue and / or involve my students with.”
- “I understand how to help my institution, students, research group find resources for being involved in public engagement.”