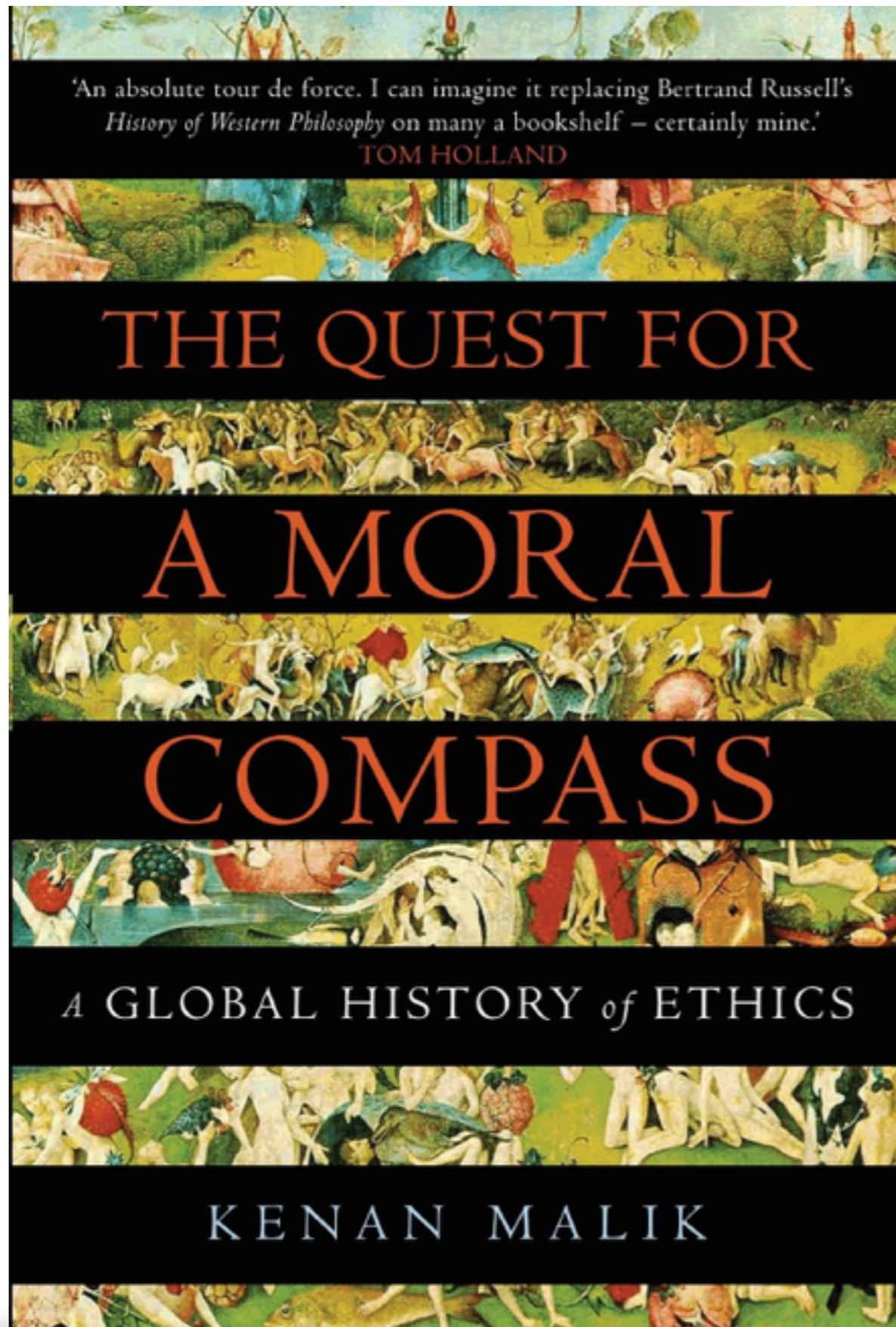




# Why Should You Communicate Science?

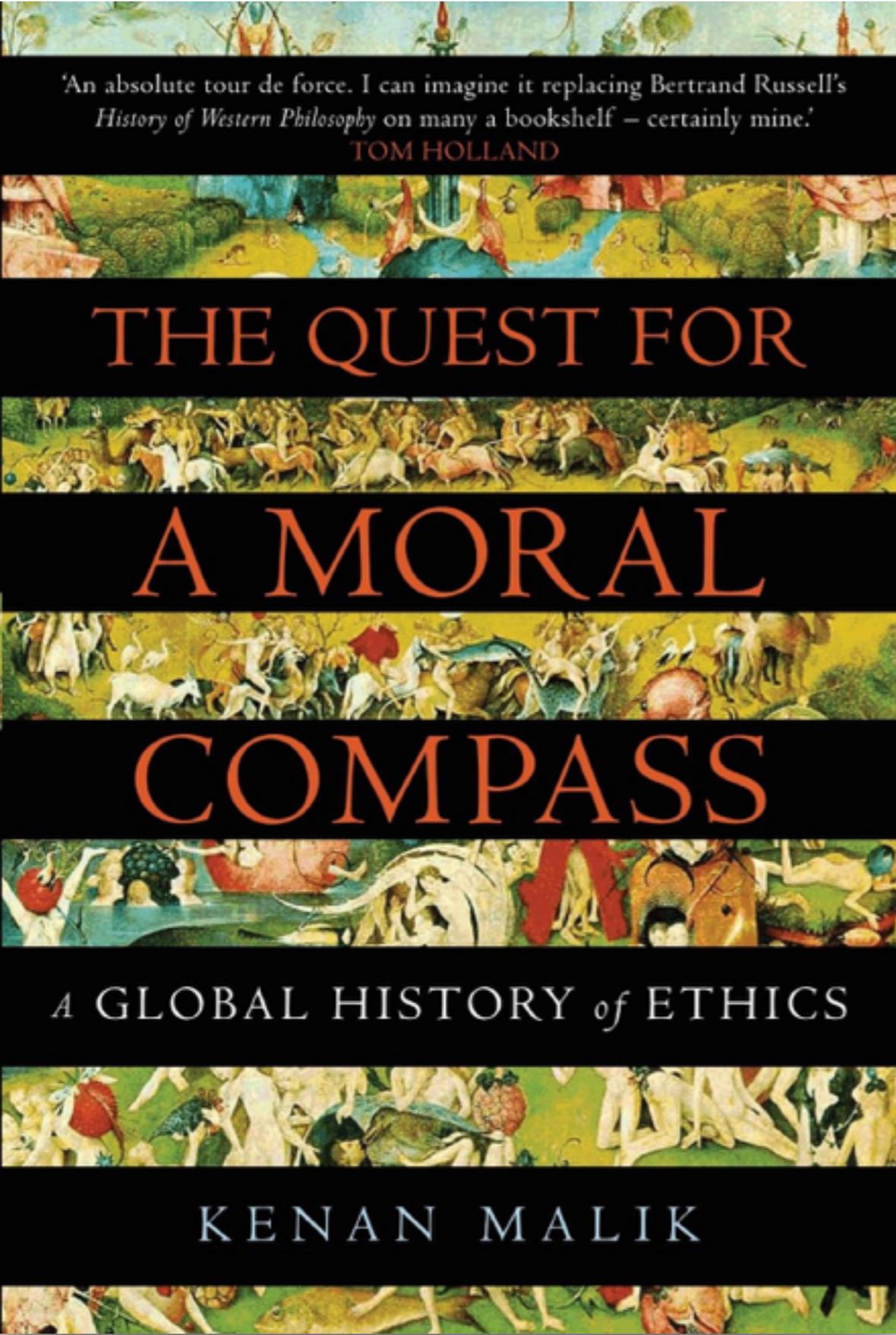
(and how)

Professor Stephen Curry  
Imperial College London



“As new possibilities of social transformation were opened up, as people rejected the idea of society as a given, so *ought* became a political, as much as a *moral* demand. People asked themselves not simply ‘What moral claims are rational given the social structure?’, but also (...) What kind of society, what types of social institutions, what forms of social relations, will best allow human beings to flourish?”

“From the printing press to the mass media, from political parties to social networking, a range of mechanisms has helped transform the constituency that is able to engage in such debates...”



'An absolute tour de force. I can imagine it replacing Bertrand Russell's  
*History of Western Philosophy* on many a bookshelf – certainly mine.'

TOM HOLLAND

THE QUEST FOR

A MORAL

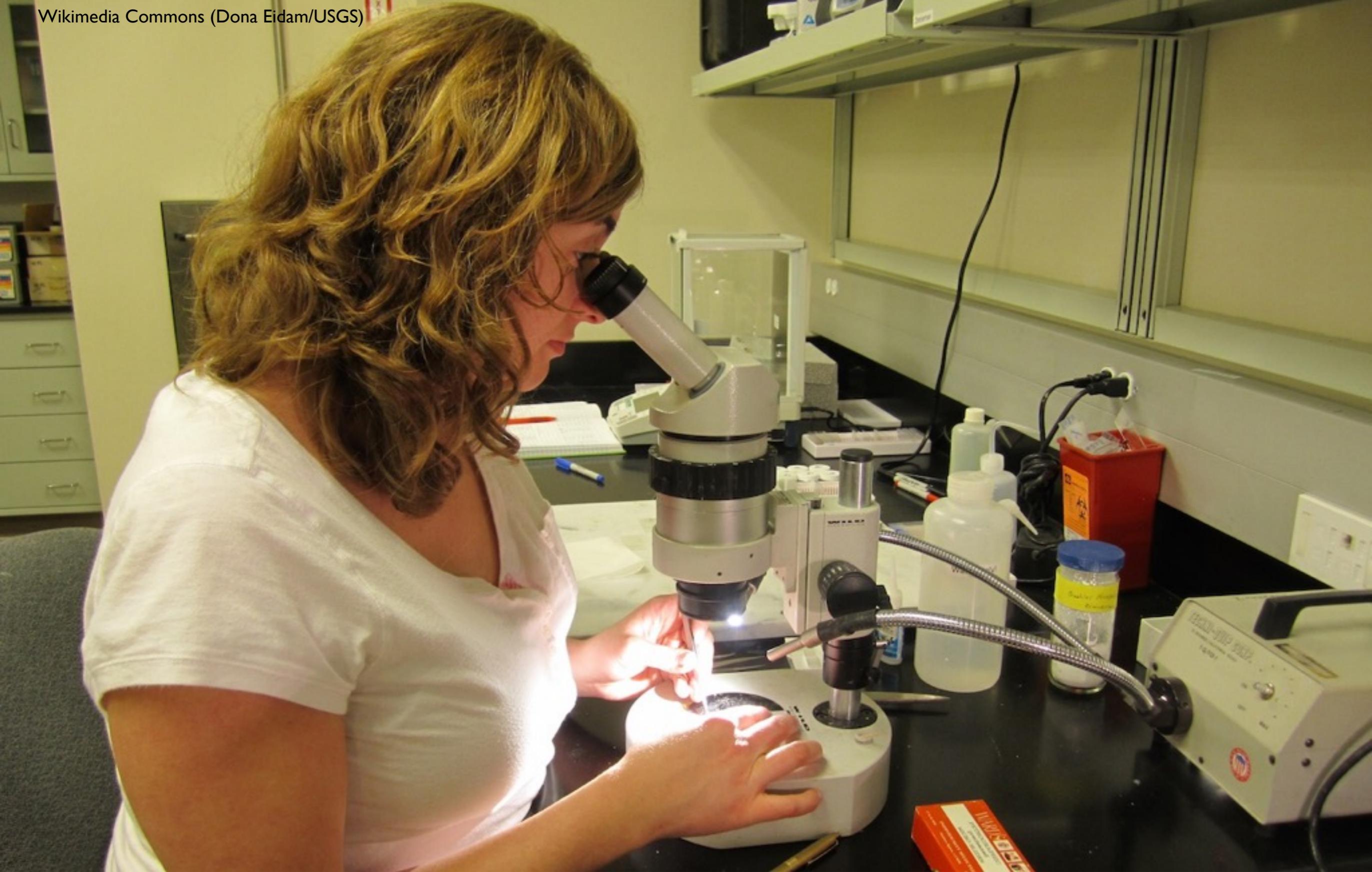
COMPASS

A GLOBAL HISTORY *of* ETHICS

KENAN MALIK

**Paraphrasing Viktor Frankl:**

“Humans find themselves only through creating meaning in the world. But meaning is not something to be discovered. It is something that humans create. They do so by acting upon the world.”



What kind of scientist do you want to be?



I've seen things you people wouldn't believe.

*Roy Batty, Blade Runner*



Human beings are a disease, a cancer of this planet. You're a plague and we are the cure.

Agent Smith, *The Matrix*

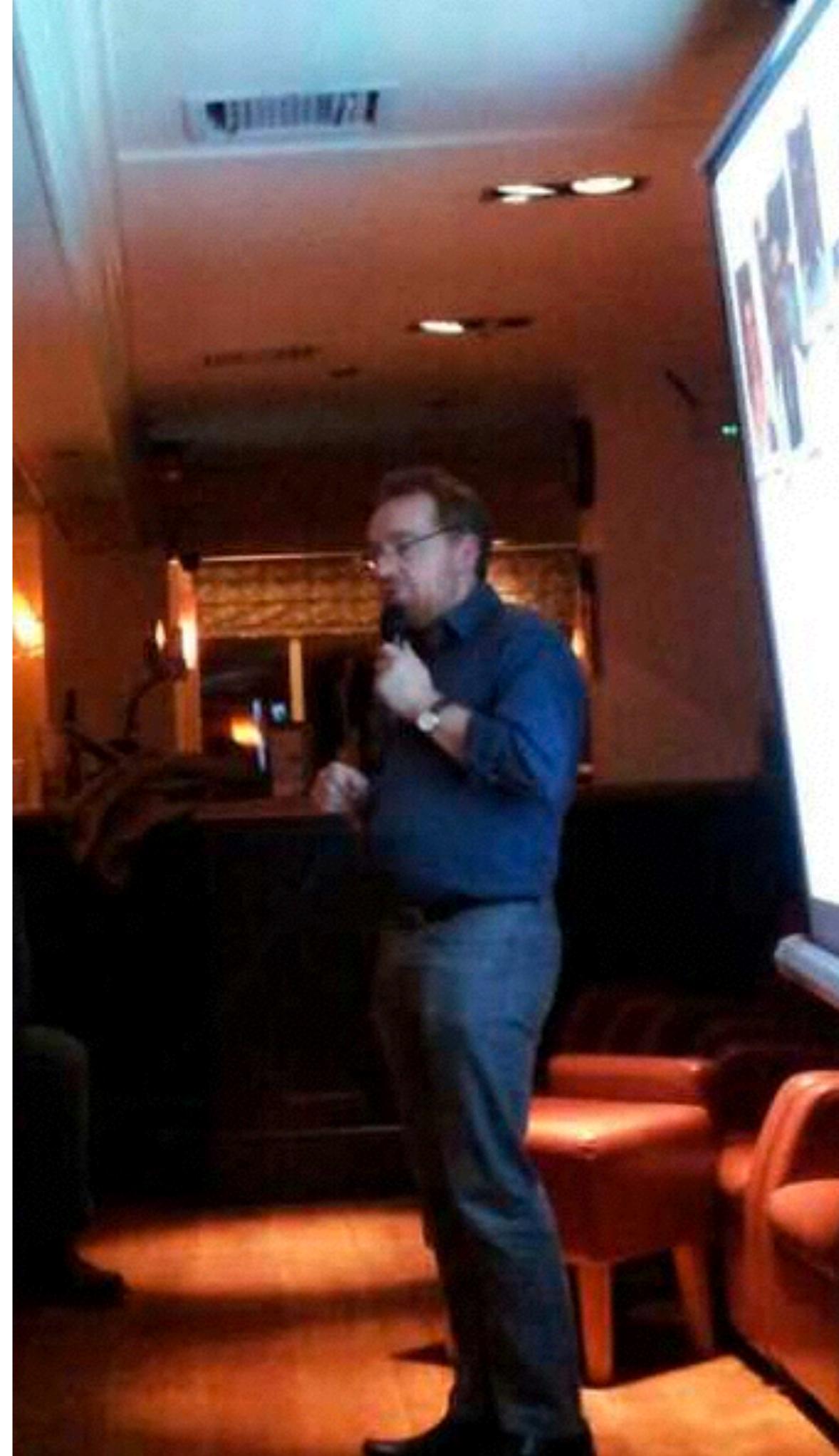
# Rewards: a personal view

Scientific citizenship

Public accountability

Self-improvement

Satisfaction



# In the beginning...

## Q13: Outline of public engagement plans

(No more than 250 words)

All work and no play makes Jack a dull boy.  
All work and no play makes Jack a dull boy.  
All work and no play makes Jack a dull boy.  
All work and no play makes Jack a dull boy.

# The internet changes everything...

**Q13:** Outline of public engagement plans  
(No more than 250 words)



*Tim Berners-Lee at the Olympic opening ceremony, 2012*

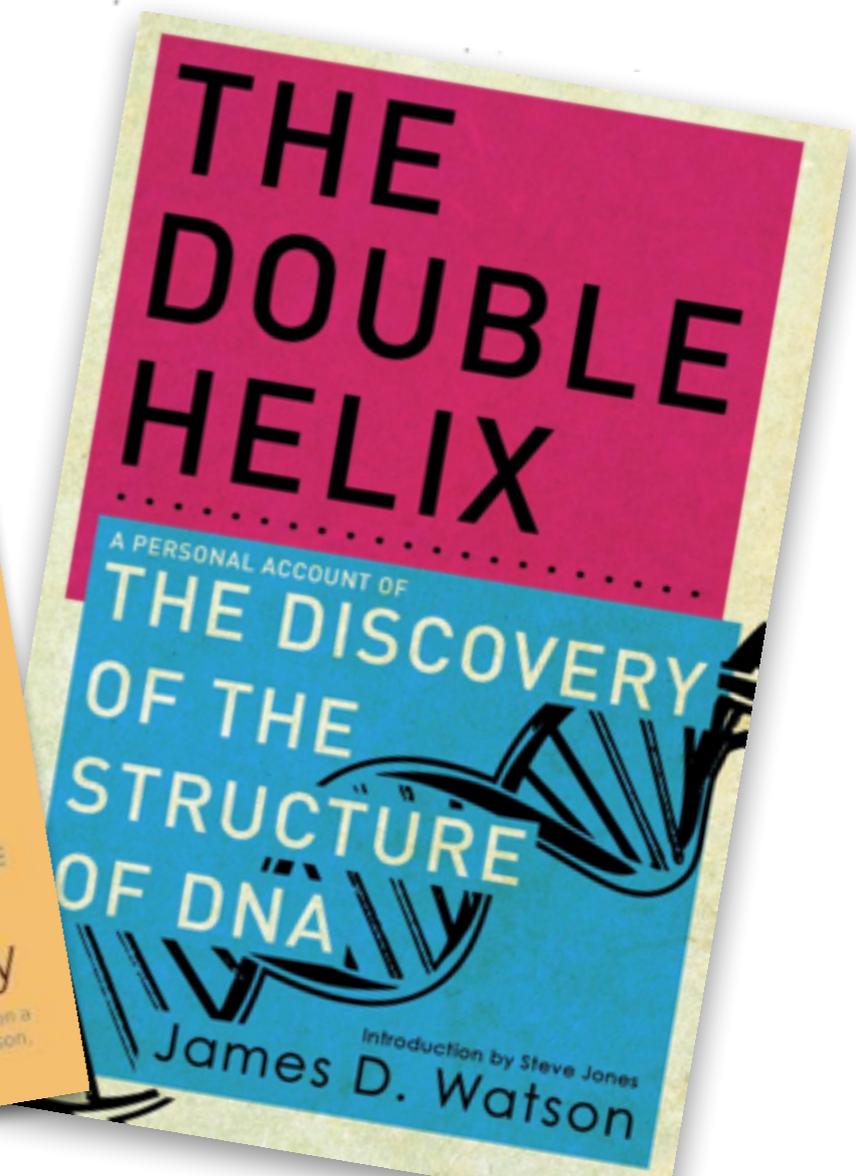
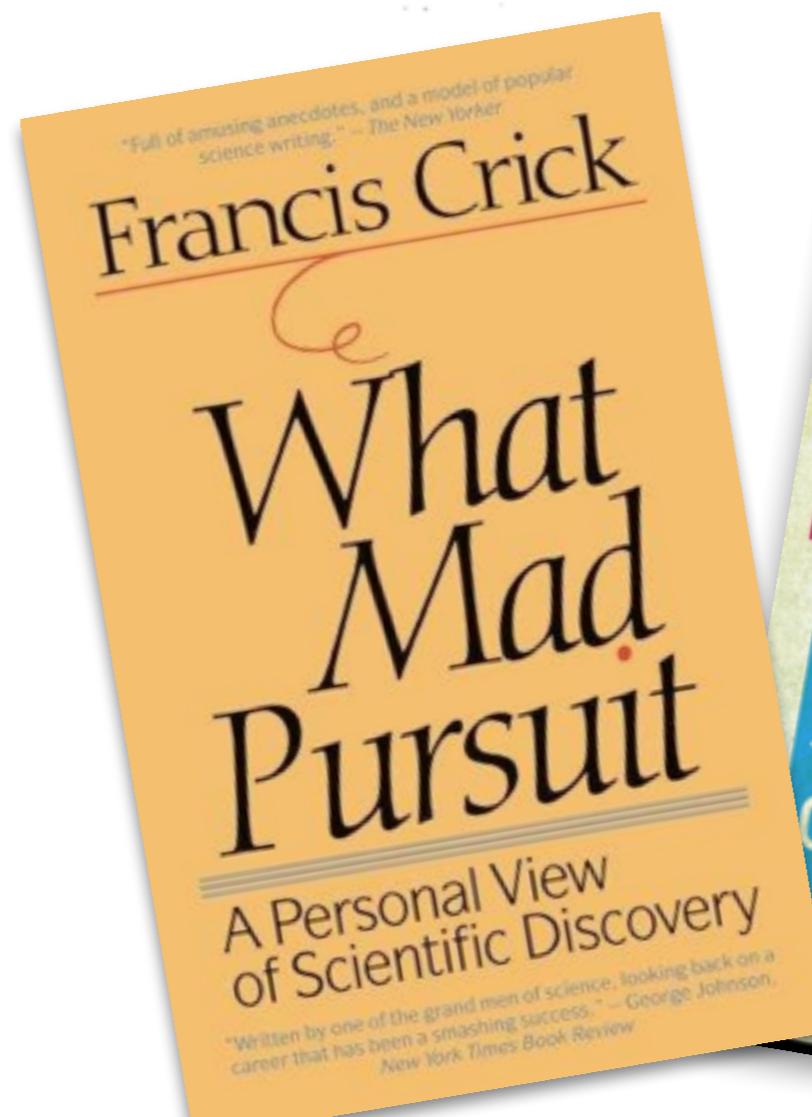


*Jude Law, Elliot Gould in Contagion (2011)*

**“Blogging isn’t writing. It’s graffiti with punctuation”**

# Letter from Francis Crick to Jim Watson (April 1967)

the point of science is what is discovered, not how it was discovered or by whom. It is the results which need to be brought home to the public. It is quite inexcusable to invade someone's privacy to describe how the structure of DNA was discovered to people who don't even know what it is, nor why it is important. I have no objection to a genuine historical description. It is vulgar popularization which is indefensible.



# First post... (and the value of a network)

nature.com > nature.com blogs

## Reciprocal Space

a nature network blog by Stephen Curry

HOME ARCHIVE ABOUT SEARCH THIS BLOG

### I hate blogs, bloggers and blogging

Posted by Stephen Curry on Sep 9, 2008

Attending the [SciBlog 2008](#) conference last week gave me a chance to weigh up my opinion of blogs, bloggers and blogging. And I've decided that I hate them all.

Not the concept or the people or the activity, you understand, but the words. They stick in my throat. As I would have said when I was growing up in Northern Ireland, they make me want to *boke*.

I know the etymology: web-log, b-log, blog. It makes perfect sense but it's such a silly-sounding word that it seems to demean the process. I would be embarrassed to admit that I do it, just because it has such a stupid name.

SUBSCRIBE

Posts

Posts & comments

#### BLOGGER PROFILE

 Stephen Curry  
[View profile](#)

Structured and unstructured observations from the principal investigator of a protein crystallography lab

Recent Nature Network

Sept 2008

## ***Blog Manifesto:***

*I won't promise to post regularly.*

*I won't promise to be unembarrassed to admit that I am a blogger.*

*I won't promise to have anything terribly insightful to say.*

# Speaking out...

guardian.co.uk

[News](#) | [Sport](#) | [Comment](#) | [Culture](#) | [Business](#) | [Money](#) | [Life & style](#)

Comment is free

## Scientists, you are fallible. Get off the pedestal and join the common herd

Climatologists above all need to rediscover the virtue of self-criticism - or others will continue to question their evidence



**Simon Jenkins**

guardian.co.uk, Thursday 4 February 2010 21.00 GMT

[Article history](#)

So scientists are human after all. They are no different from bankers, politicians, lawyers, estate agents and perhaps even journalists. They cheat. They make mistakes. They suppress truth and suggest falsity, especially when a cheque or a plane ticket is on offer. As for self-criticism, that is for you, not me.

guardian.co.uk

[News](#) | [Sport](#) | [Comment](#) | [Culture](#) | [Business](#) | [Money](#) | [Life & style](#)

Comment is free **Response**

Series: [Response](#)

## We're not on a pedestal: peer review keeps scientists firmly grounded

We deal in theories and uncertainty - not egocentric preaching, say Stephen Curry and Bill Hanage

**Stephen Curry and Bill Hanage**

The Guardian, Thursday 11 February 2010

[Article history](#)

Simon Jenkins is dismayed by reports of the lax behaviour of some scientists on the Intergovernmental Panel on Climate Change, and the allegations of some stem cell researchers that their work is being held up by rivals during peer review ([Scientists, you are fallible. Get off the pedestal and join the common herd](#), 5 February).

Conflating these stories with his ill-founded distrust of epidemiology, Jenkins paints a grim picture of science and scientists as corrupting and corruptible: "They cheat. They make mistakes. They suppress truth and suggest falsity, especially when a cheque or a plane ticket is on offer."

# Science and society

Online



Outside

nature.com nature.com nature.com > nature.com blogs

## Reciprocal Space

a nature network blog by Stephen Curry

HOME ARCHIVE ABOUT

### This appeal must be allowed

Posted by Stephen Curry on Apr 1, 2010

I was in Court 4 at the Royal Courts of Justice at 9.30 this morning, the Court of the Lord Chief Justice. This one was a 'real' court room, all oak panel, wall-to-wall shelves of legal

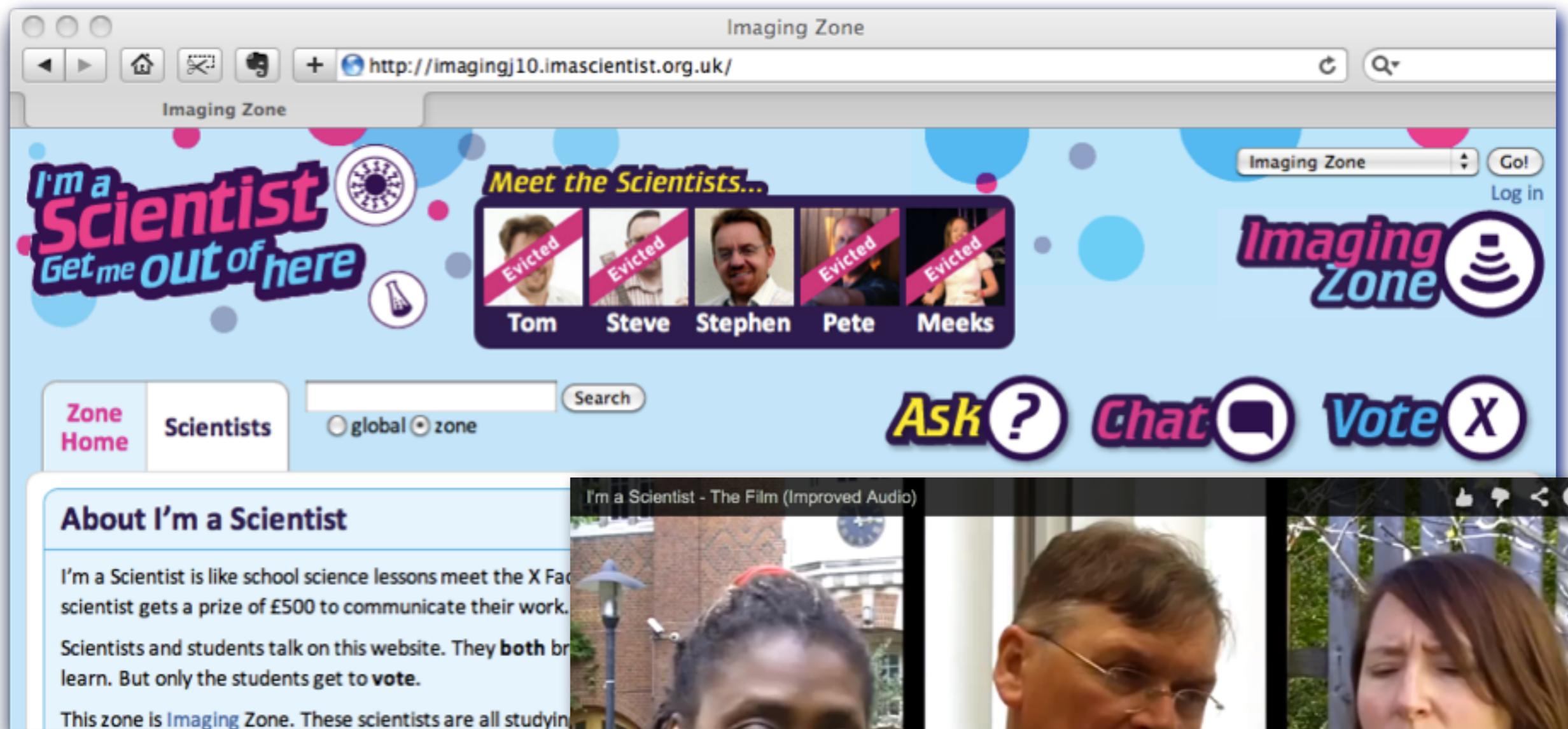
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# Defamation Act 2013

Simon Singh - b  
Supporters gather  
Simon Singh speaks to reporters after this morning's ruling

Simon Singh:  
The British Chiropractic Association... *"happily promotes bogus treatments"*.

# The next generation



Connects the kids to real scientists  
Tough but energising  
Fresh perspective  
Youthful idealism  
Makes you think



<http://imascientist-film.org.uk>

# And that led to...

The screenshot shows the Ri Channel website interface. At the top left is the 'Ri Channel' logo with the tagline 'The Smart place for Science'. Navigation tabs include 'Videos', 'Collections', 'Christmas Lectures', and 'About'. A search bar is located at the top right. Below the navigation, there are buttons for 'Donate' and 'Subscribe'. The main content area features a video player with the title 'Celebrating Crystallography' and the subtitle '100 years of Crystallography'. The video thumbnail displays a colorful ball-and-stick model of a crystal lattice. A play button is centered over the thumbnail. Below the thumbnail is a progress bar showing '00:00'.

This screenshot shows a YouTube video player. The video title is 'Seeing Things in a Different Light' with the subtitle 'Friday Evening Discourse with Stephen Curry'. The video description reads 'Seeing Things in a Different Light: How X-ray crystallography revealed the structure of everything'. The video player shows a man in a tuxedo, Stephen Curry, standing behind a wooden desk. On the desk are several crystal models and a book. The video progress bar indicates '2:51 / 1:02:47'. The YouTube logo and various control icons are visible at the bottom of the player.

<http://www.richannel.org/collections/2013/crystallography>

# Science and Politics — Sept 2010

guardian.co.uk

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

News > Science > Political science

## POLITICALSCIENCE DREVANHARRIS

HOSTED BY THE GUARDIAN



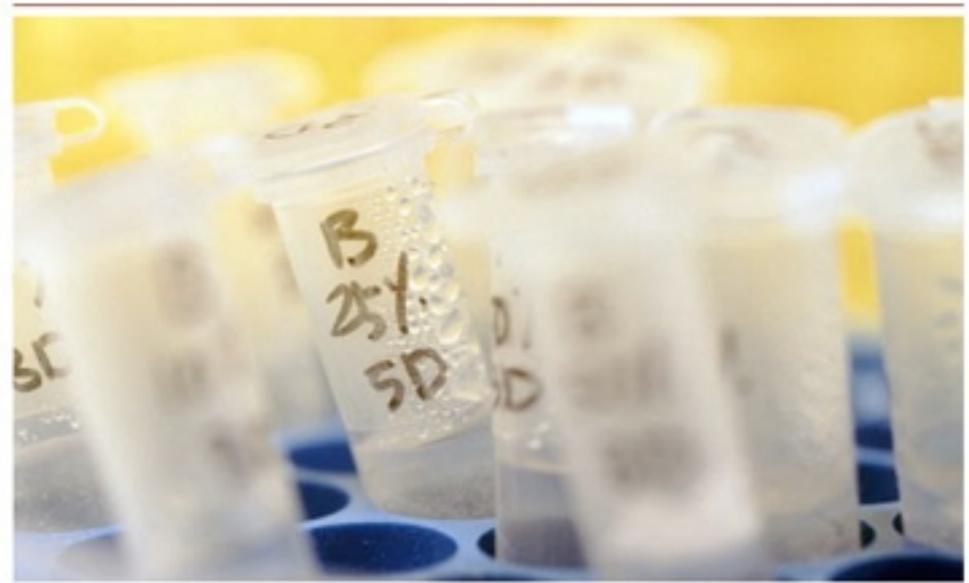
Previous

Blog home

Next

### Vince Cable's wrong connection

After what is being labelled "45%-gate", Stephen Curry and Evan Harris figure out how excellent British science is – or isn't



How much value for money is there in British research? Photograph: George Disario/Corbis

On Wednesday morning on the Today Programme business secretary Vince Cable said: "Something like 45% of the research grants that were going through were to research that was not of excellent standard so we are going to have to set the bar higher."

nature.com > nature.com blogs

## Mind the Gap

a nature network blog by Jennifer Rohn

HOME

ARCHIVE

ABOUT

### In which the great slumbering scientific beast awakens

Posted by Jennifer Rohn on Sep 8, 2010

SHARE

Scientists in the UK today are starting to respond to governmental noises suggesting that, in a time when other countries are investing in science to rejuvenate the economy, funding for science and innovation here will have to be slashed. Only the best will be funded, and the rest can leave the country or flip burgers.

There has been a lot of hand-wringing on Twitter about what to do, but though we all feel

we have to do something, nobody quite knows what

# Science is Vital Campaign

Misleading photo - it was never this relaxed



scienceisvital.org.uk

HOME SIGN THE PETITION ATTEND THE RALLY WRITE TO YOUR MP LOBBY PARLIAMENT



We are a group of concerned scientists, engineers and supporters of science who are campaigning to prevent destructive levels of cuts to science funding in the UK.

### Why science?

Investing in research enriches society and helps drive the economy. It led to our preeminent position in the 20th century, and will be vital in meeting the challenges of the 21st – whether they be in energy, medicine, infrastructure, computing, or simply humanity's primal desire for discovery.



**Dara O'Briain**, the comedian with a degree in mathematical physics, says, "If I wasn't on tour I would be protesting in London with my fellow science geeks at Science is Vital – because it seems a good time to remind the Government that this country won't keep winning Nobel prizes if they start to cut Science Funding."



**Sir Patrick Moore**, CBE HonFRS FRAS, says, "If we cut funds for science we'll be shooting ourselves in the foot... I support the Science is Vital campaign 200%!"

### About

Who we are, and what we're doing

### The Argument

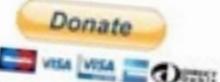
Key points in the economic argument against cuts to science funding

### The Petition

So far, 36290 people have signed! See all signatories.

### Donate to the campaign

Please help to keep Science is Vital going: every penny helps and we need your support!



### Latest News

- Signatures
- Rally Report
- Question time
- Whose constituents signed the petition?
- Slogans
- Posters for rally
- What don't we know yet?
- Supporters



Photo: Della Thomas

facebook

Science is Vital

Wall Info Discussions Photos

Write something...

Attach:

Siobhan O'Neill Hate the cuts? This

http://www.youtube.com/watch?v=B...

Captain SKA - L...  
Released 12th Dec...  
all other digital s...  
Alliance, FalseEco...  
Launch gig for "Li...  
December, Vibe B...  
Josie Long, Hackn...

4 hours ago · Like · Comment · Share

Paula Salgado HEPI response to gov

http://www.hepi.ac.uk/478-1876/H...  
government's proposals for higher

Petition: http://scienceisvital.org.uk/sign-the-petition/

Rally: Sat 9th October, 2 PM King Charles St, London http://scienceisvital.org.uk/attend-the-demo

Lobby: 12th October 3.30 committee room 10, Parliament

twitter #scienceisvital

# Science is Vital rally preparations - not glamorous



Photo: Stephen Curry

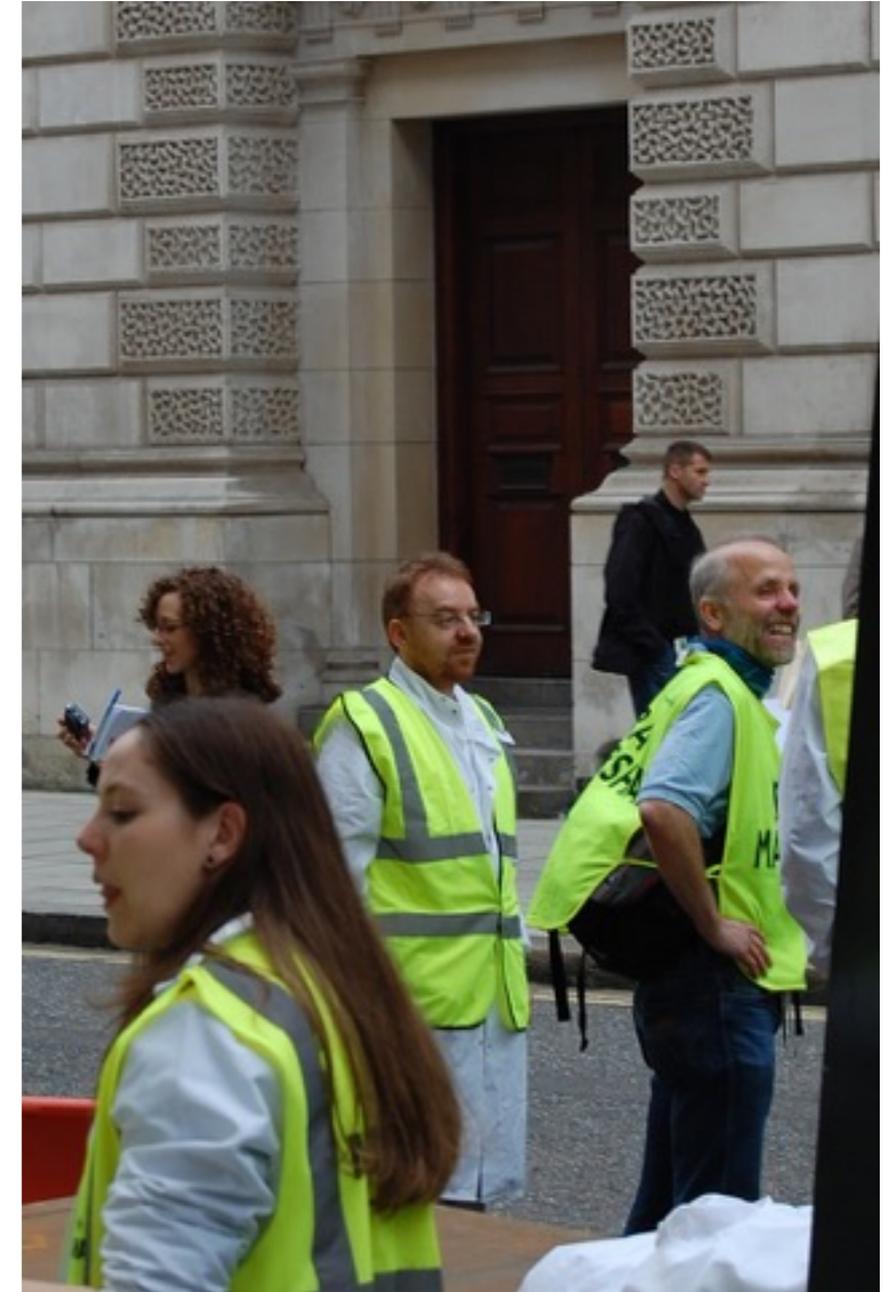


Photo: Shane McCracken

# Science is Vital - Rally, Lobby, Petition (Oct 9-14th)

Photo: Joe Dunckley



News | Sport | Weather

**BBC** Mobile

**NEWS SCIENCE & ENVIRONMENT**

Home | World | UK | England | N. Ireland | Scotland | Wales | Business | Politics | Health | E

20 October 2010 Last updated at 16:51

## 'Vital' science spared deep cuts

By Pallab Ghosh  
Science correspondent, BBC News

The Chancellor George Osborne has announced that the UK's science budget will be frozen in cash terms - a cut of less than 10% over four years.

Photo: Stephen Curry



Photo: RadioKate



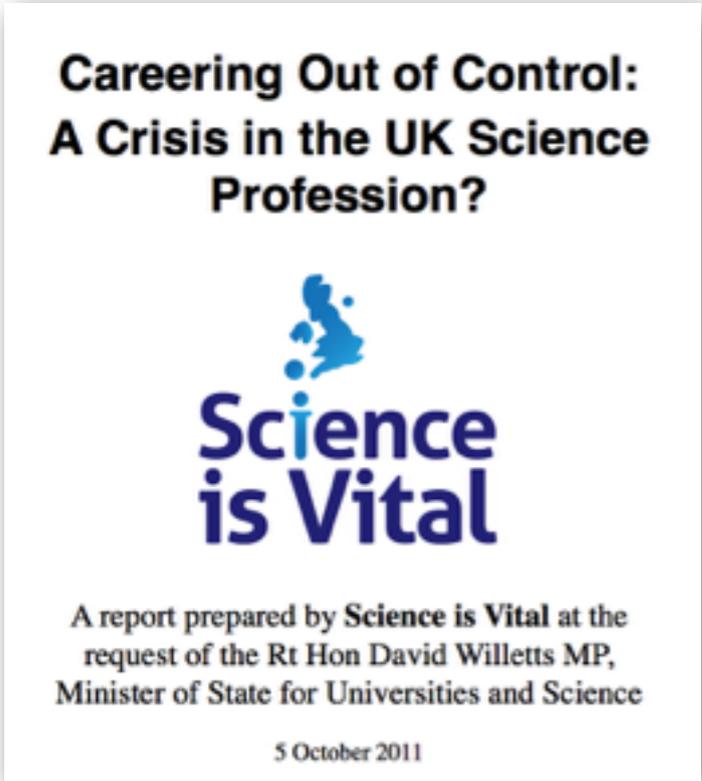
Photo: Stephen Curry



Photo: Joe Du



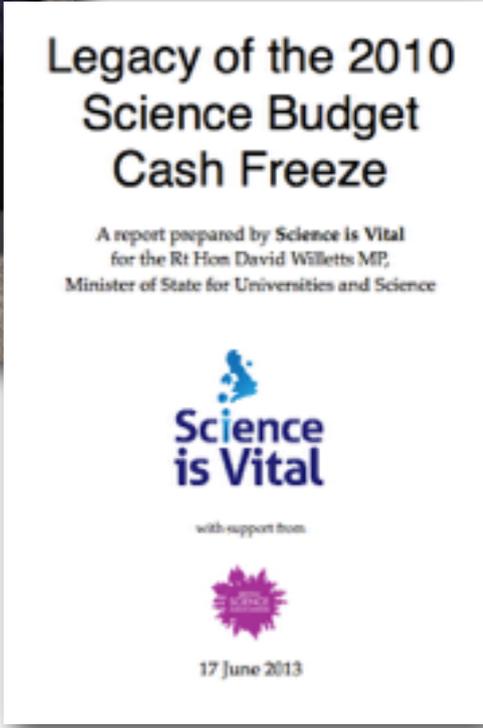
# Science is Vital since 2010



2011



2013



home > science

**Research funding**  
Occam's corner

## How should the government invest in science research? - live chat

Join our discussion with the UK science minister David Willetts on **Monday 16 June, 12-2pm BST**, about how the government should invest the £5.9bn it has committed to spend on research infrastructure over the next five years

Stephen Curry

Tuesday 10 June 2014  
08.35 BST



Shares 684  
Comments 308



Science minister David Willetts at UCL announcing the consultation on proposals for long-term capital investment in science and research. Photograph: Jon Butterworth

Advertisement



Most popular



Shia LaBeouf collaborators speak out about his alleged rape

# We're not the only ones...

The screenshot shows the ScienceGrrl website homepage. At the top is a navigation menu with links: HOME (underlined), ABOUT, NATIONAL, LOCAL, EVENTS, NEWS, SHOP, JOIN, and CONTACT. In the top right corner are social media icons for Twitter, Facebook, and Tumblr. The main header features the ScienceGrrl logo on the left, which consists of the word "SCIENCE" in red and "GRRRL" in purple, set against a yellow and blue starburst background. To the right of the logo is the tagline "Because science is for everyone" in purple. Below the header is a large photograph of a woman with long brown hair, Suzie Sheehy, standing in a laboratory next to a large, complex piece of scientific equipment. A purple banner at the bottom of the photo reads "High heels, running shoes and accelerator physics - Suzie Sheehy". To the right of the photo is a light green box containing the text "Welcome to ScienceGrrl" followed by a paragraph about the organization's mission. Below this text is a small graphic for a report titled "THROUGH BOTH EYES" with the subtitle "THE CASE FOR A GENDER LENS IN STEM". At the bottom of the green box is another paragraph of text.

HOME ABOUT NATIONAL LOCAL EVENTS NEWS SHOP JOIN CONTACT

SCIENCE GRRRL

Because science is for everyone

High heels, running shoes and accelerator physics - Suzie Sheehy

**Welcome to ScienceGrrl**

We are a group of people who are passionate about celebrating women in science and passing on our love of science to the next generation. Find out more about who we are and what we are doing.

**THROUGH BOTH EYES**  
THE CASE FOR A GENDER LENS IN STEM

Read the new ScienceGrrl report on STEM skill shortages and the lack of female representation in these fields:  
"Through Both Eyes: the case for a Gender lens in STEM".

<http://sciencegrrl.co.uk>

# Bloggging at work: research & microbiology

## Diamond nights

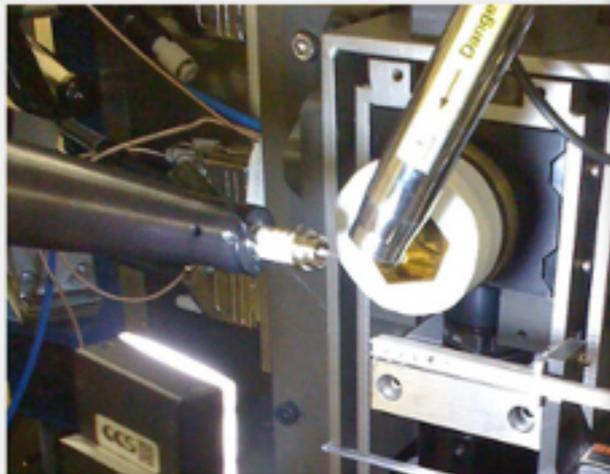
Posted on December 19, 2008 by Stephen

Yesterday morning I awoke in crumpled clothes on a strange & unwashed. I'd crashed there at about 5.30 am and only snatched a few minutes of sleep. As I gazed bleakly at unfamiliar surroundings, a woman I barely knew offered me a cup of tea. I nodded and mumbled thanks.

Partying hard in the run-up to Christmas? No, it was the aftermath of a [time](#) to the [Diamond Light Source](#) just outside Didcot.

The symptoms will be familiar to most protein crystallographers: mental derailment, churned up guts that are no longer in sync with the ground.

Three of us had arrived bright-eyed on Wednesday morning for the micro-focus beam-line (I24) at Diamond. The beam-line is a wondrous experimental station isn't quite fully operational. But it works via a mutual back-scratching agreement with Gwyndaf, the beam-line that has been some time for our project. I24 focuses the intense X-rays generated by the beam that is only about a tenth of the thickness of a human hair. It's needed since our crystals were tiny needles of about the same size.



The crystal (invisible!) is on the end of the horizontal pin in the

## News Science Occam's corner

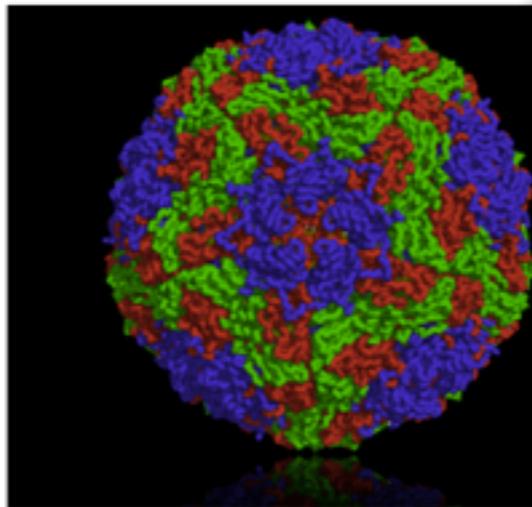
### OCCAM'S CORNER

HOSTED BY THE GUARDIAN

Previous

## The science behind the new mouth disease vaccine

The creation of a new synthetic vaccine for foot and mouth disease is a stranger and more impressive advance than the media



FMDV may be small — only 0.000035 mm — but is still

A paper describing a new synthetic vaccine for foot and mouth disease (FMD) was all over the news. It's an impressive advance on a very dangerous disease in ch

## News Science Occam's corner

### OCCAM'S CORNER

HOSTED BY THE GUARDIAN



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## The Bridge: scientific spoiler alert

Warning: do not read this blog post if you have not yet seen the final episode of season two of *The Bridge* (BBC4). You may not want to read it even if you have, as it could still spoil your enjoyment.

Share 71

Tweet 78

+1 2

Share 0

Email



Posted by Stephen Curry  
Wednesday 5 February 2014 07.30 GMT  
theguardian.com  
Jump to comments (37)



Sài Gòn Séamus

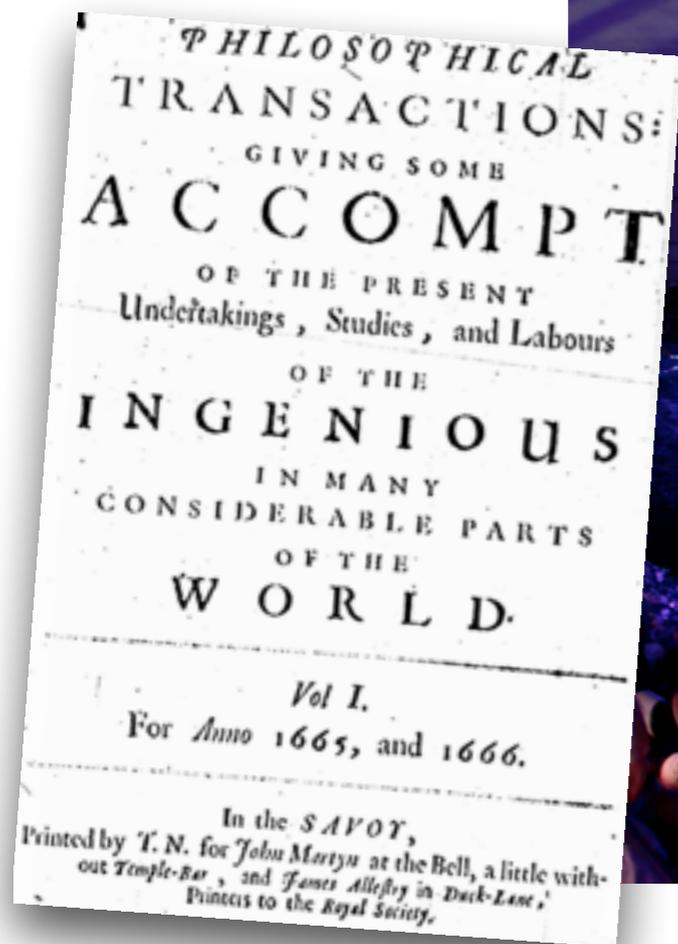
@SeamusOS



@Stephen\_Curry @guardianscience thanks for the spoiler w\*\*kers!  
Unfollowed!

5:20pm - 5 Feb 14

# The internet changes everything (and it's not done yet)



## Dame Janet Finch:

“The principle that the results of research that has been publicly funded should be freely accessible in the public domain is a compelling one, and **fundamentally unanswerable.**”



# OPEN ACCESS IS:

- ▶ Good for research
  - faster exchange of ideas
  - fosters inter-disciplinarity
  - stronger sense of community ownership
- ▶ Good for the taxpayer
  - better cost control (eventually)
  - access to the research they paid for
  - changes dynamic of public engagement

# Challenging journals: Impact factors are a big problem

[occamstypewriter.org/scurry](http://occamstypewriter.org/scurry)

## Sick of Impact Factors

Posted on [August 13, 2012](#) by [Stephen](#)

I am sick of impact factors and so is science.

The impact factor might have started out as a good idea, but its time has come and gone. [Conceived by Eugene Garfield](#) in the 1970s as a useful tool for research libraries to judge the relative merits of journals when allocating their subscription budgets, the impact factor is [calculated](#) annually as the mean number of citations to articles published in any given journal in the two preceding years.



**welcome**trust

*"affirms the principle that it is the **intrinsic merit of the work**, and not the title of the journal in which an author's work is published, that should be considered in making funding decisions."*

 **BioMed Central**  
The Open Access Publisher

**PeerJ**

Open Access & Peer-Reviewed. Starting at \$99 - for life.

**F1000Research** OPEN SCIENCE • OPEN DATA  
OPEN PEER REVIEW

 **PLoS** PUBLIC LIBRARY  
of SCIENCE

**frontiers**

**mBio**<sup>®</sup>  
AN OPEN ACCESS JOURNAL PUBLISHED BY  
THE AMERICAN SOCIETY FOR MICROBIOLOGY

# Impact on Impact?

[occamstypewriter.org/scurry](http://occamstypewriter.org/scurry)

## Impact Factors — Letter to RCUK

Posted on [March 21, 2013](#) by [Stephen](#)

Following [my post of last week](#) asking RCUK to include in the [guidelines](#) on their new open access policy a statement disavowing the use of impact factors in assessing funding applications, I wanted to thank everyone who registered their support. I also wanted to provide the text of the letter that was sent yesterday to Alexandra Saxon, RCUK's Head of Communications. All the signatories are listed below.

As we now know, Alexandra left a [comment](#) on that post indicating that RCUK will respond positively by amending the guidelines in accordance with our request. I am grateful to RCUK for such swift action on this and look forward to the revised text with great interest.



Stephen Curry: scientist who uses X-rays to look at the atoms of protein molecules. Wonders about the place of science in the world. Works at [Imperial College](#) but views expressed

**welcome**trust

*"affirms the principle that it is the **intrinsic merit of the work**, and not the title of the journal in which an author's work is published, that should be considered in making funding decisions."*

 RESEARCH  
COUNCILS UK

*"when assessing proposals for research funding RCUK considers that it is the **quality of the research** proposed and not where an author has published... that is of paramount importance."*

*April 8, 2013*

# Re-assessing researchers for the sake of science — and good communication

## Evaluating how we evaluate

Ronald D. Vale

Department of Cellular and Molecular Pharmacology and the Howard Hughes Medical Institute, University of California, San Francisco, San Francisco, CA 94158

**ABSTRACT** Evaluation of scientific work underlies the process of career advancement in academic science, with publications being a fundamental metric. Many aspects of the evaluation

Vale, R. D. (2012) *Mol Biol Cell* **23**, 3285–3289.

### My Word

## The mismeasurement of science

Peter A. Lawrence

*Answer from the hero in Leo Szilard's 1948 story "The Mark Gable Foundation" when asked by a wealthy entrepreneur who believes that science has progressed too quickly, what he should do to retard this progress: "You could set up a foundation*

release. The song writers would soon find that producing junky Christmas tunes and cosying up to DJs from top radio stations advanced their careers more than composing proper music. It is not so funny that, in the real world of science, dodgy evaluation criteria such as impact factors and citations are dominating minds, distorting behaviour and determining careers.

Modern science, particularly biomedicine, is being damaged by attempts to measure the quantity and quality of research. Scientists are ranked according to these measures, a ranking that impacts on funding of grants, competition for posts and

San Francisco  
**DORA**  
Declaration on Research Assessment

*Have you signed?*

Lawrence, P. A. (2007) *Curr. Biol.* **17**, R583–5.

# Re-assessing communication for the sake of researchers — and the good of science

home > science

## Peer review and scientific publishing

Occam's corner

## Who governs science?

Traditionally, science holds itself to account, primarily through internal systems of peer review. But the recent retraction of two papers on stem-cell research by the journal Nature highlights weaknesses in this self-regulatory framework that scientists need to address

Stephen Curry

Friday 15 August 2014 07.53 BST



Shares

826

Comments

30



Yoshiki Sasai, deputy director of the Riken Center for Developmental Biology. Photograph: Kyodo/Reuters

# Thank you

## Nature Network

Matt Brown  
Maxine Clarke  
Lou Woodley

## Occam's Typewriter/Corner

Jenny Rohn  
Richard Grant  
Henry Gee  
Athene Donald  
Austin Elliot  
Steve Caplan  
Steffi Suhr  
Kristi Vogel  
Richard Wintle  
Bob O'Hara  
Erika Cule  
Sylvia McLain  
Frank Norman

*All readers*

*All commenters*

## The Guardian

Alok Jha  
Ian Sample  
James Kingsland

## Group Members

Eoin Leen  
Chiara Pastore  
Humberto Fernandes  
Trevor Sweeney  
Amar Joshi  
Olga Kotik-Kogan  
Jingie Yang

## I'm a Scientist Film

Shane McCracken  
Sophia Collins  
Tim Hunt  
Jenny Rohn  
Bernadette Byrne  
Marcia Philbin  
Amar Joshi  
Laurence Pearl

## Royal Institution

Ed Prosser  
Rob Cawston  
Gail Cardew  
Frank James  
Charlotte New

## Science is Vital

Jenny Rohn  
Richard Grant  
Michelle Brook  
Della Thomas  
Shane McCracken  
Evan Harris  
Prateek Buch  
Tom Hartley  
Paula Salgado  
Andrew Steele  
Matthew Martin  
Alasdair Taylor

## CaSE

Imran Khan  
Hilary Leever  
Sarah Main

## Libel Reform Campaign

David Allen Green  
Evan Harris  
Sile Lane  
Simon Singh

## Family

Anne  
Dominic  
Eleanor  
Charlotte

## Film Directors

Steven Soderbergh  
Martin Scorsese  
Stanley Kubrick  
Ridley Scott  
The Wachowskis