

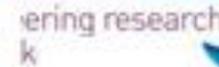


Hard to Move Science: Using travelling exhibitions to reach new audiences

Terry O'Connor
STFC

STFC is one of Europe's largest multidisciplinary research organisation

Just some of our partners



We run five national labs...

UK Astronomy Technology Centre
Edinburgh, Scotland



Polaris House
Swindon, Wiltshire



Chilbolton Observatory
Stockbridge, Hampshire



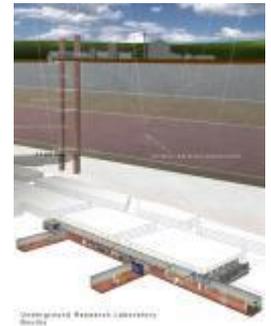
Daresbury Laboratory
Sci-Tech Daresbury
Warrington, Cheshire



Rutherford Appleton Laboratory
Harwell
Didcot, Oxfordshire



Boulby Underground Laboratory North Yorkshire



...and both fund and do science.

We inspire
and inform
100,000s of
people in the
UK every year
about our
sciences....



....from the
young....



...to the not-so young....





.....and it all has a positive
impact.....



at existed a trillionth of a second

**But.... there are some flaws in
the system**



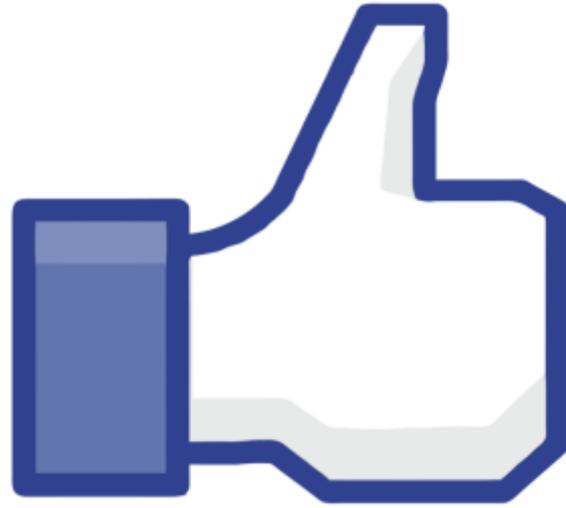
Public attitudes to science

Survey by Ipsos MORI/BIS 2014



The survey is conducted every five years....

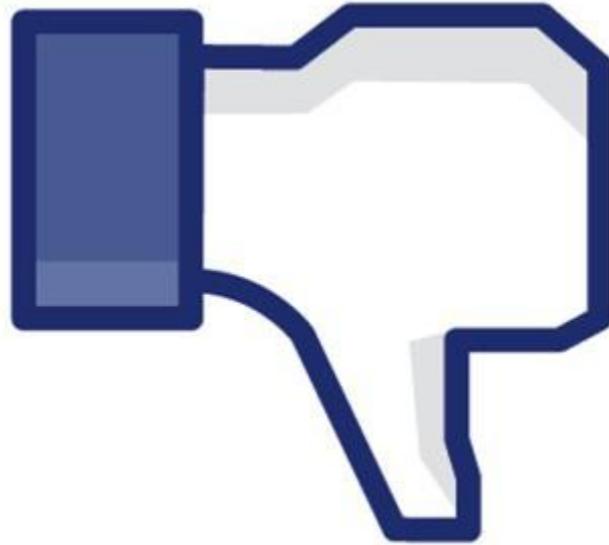




...it shows very high levels of public support for science...

Everyone should take an
interest in science – **84%**
agree

Science makes a direct
contribution to economic
growth – **76% agree**



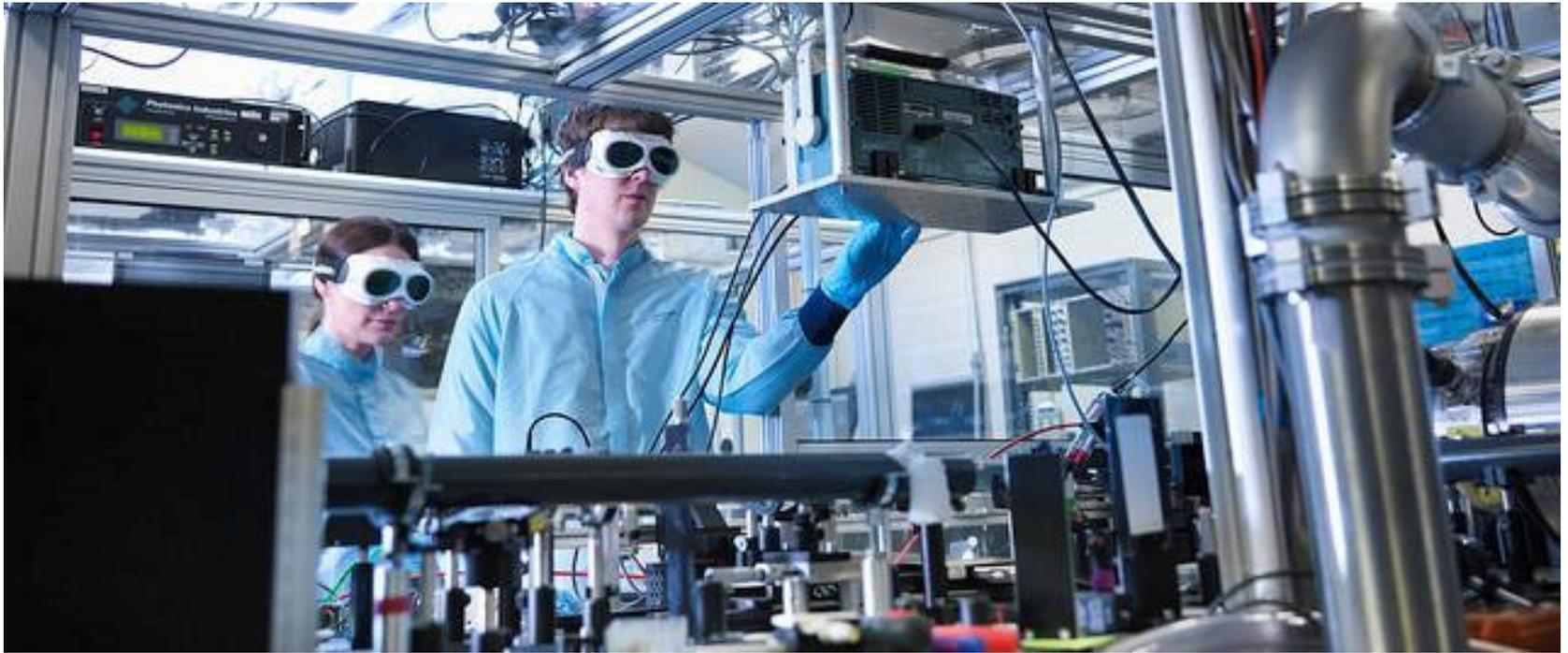
....but also some less positive findings....

Science/technology is **too specialised** for people to understand – **55%**

Scientists are seen as: honest, creative, interesting, ethical, **but secretive**

...and public interest in science
doesn't lead to interest in a
career in science.

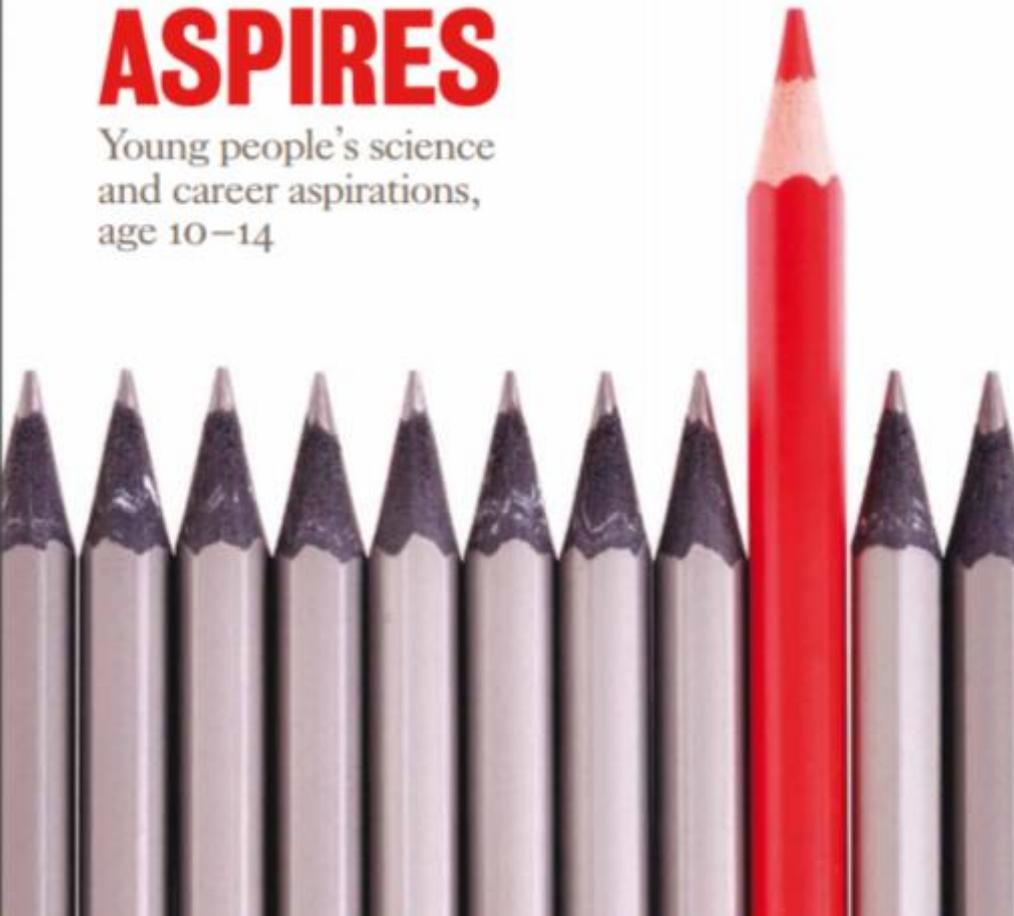




The UK economy needs more
people with science skills

ASPIRES

Young people's science
and career aspirations,
age 10–14



Something's
not working

But what?

Young people don't see a career in science and related subjects as relevant to them....

(Aspires)



...but if they see science as
personally useful they're 14
times more likely to want to
study it



Science
communication
also fails to reach
girls, minority and
disadvantaged
groups





Existing approaches don't reach
the right audience



So, we're trying a
different approach.
Based on hard
evidence

We're shifting
communications
and engagement
to new
audiences,
especially girls



Decisions on careers are made early, so we're boosting our work with 10-13 year olds





We're expanding national partnerships to offer hands-on physics activities not available in many schools



.....and.....

You have one new message

You don't (necessarily) need a
PhD to work in science

(we need apprentices, engineers,
technicians, accountants, science
writers, electricians, welders, etc)

You don't (necessarily) need a
PhD to work in science

**(health warning: we know this
needs to be refined)**



But...engaging new audiences directly can be challenging

Our science is “hard to move” ...



LHC @CERN

**Diamond Light
Source, Oxfordshire**



...and “hard to reach”



**ALMA, 5000
metres altitude in
Chile**

**Rosetta and
Philae**



Take the science to the audience



The real Peter Higgs!
LHC Roadshow, Queens
University Belfast



Seeing the Universe in All its
Light, Welsh Assembly



Lasers roadshow first outing

Try to re-create the sightlines of a real lab



The exhibit features a large vertical panel. At the top, there is a photograph of a person wearing laser safety goggles. Below this, a screen displays a blue abstract graphic with the text: "The intense blue high intensity lasers in the image are the result of intense light scattering." At the bottom of the panel, there is a smaller image of a person in a lab setting.

History

CLF milestones	Laser milestones
1960 - First laser	1960 - First laser
1962 - First laser	1962 - First laser
1964 - First laser	1964 - First laser
1966 - First laser	1966 - First laser
1968 - First laser	1968 - First laser
1970 - First laser	1970 - First laser
1972 - First laser	1972 - First laser
1974 - First laser	1974 - First laser
1976 - First laser	1976 - First laser
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2004 - First laser	2004 - First laser
2006 - First laser	2006 - First laser
2008 - First laser	2008 - First laser
2010 - First laser	2010 - First laser
2012 - First laser	2012 - First laser
2014 - First laser	2014 - First laser
2016 - First laser	2016 - First laser
2018 - First laser	2018 - First laser
2020 - First laser	2020 - First laser

Ulster Museum, Northern Ireland Science Festival

Not just for kids.....



Exhibit had to appeal to key 16+ and older audiences: we wanted to provide a fun way of engaging around careers and wider impact

.....but also for kids.....

Aaron Scott, RAL apprentice



School groups would always be a STEM target: we needed to ensure relevance to curriculum, and provide support for teachers

.....and Science Ministers too!

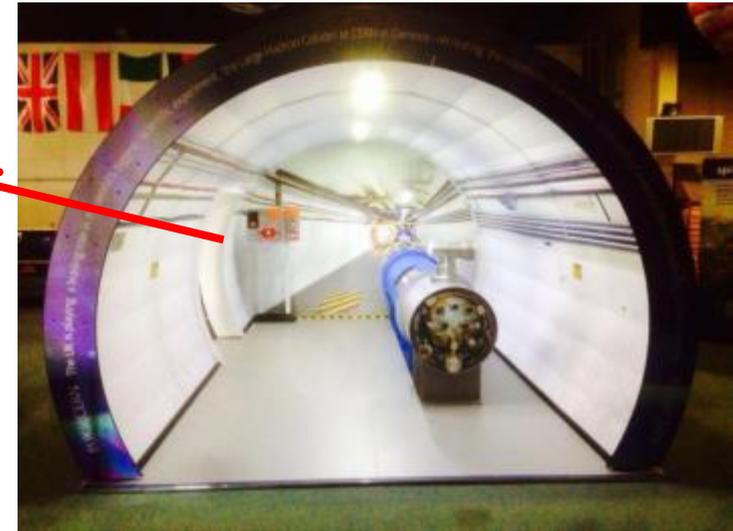
STFC's Silke
Zollinger

Science minister's
daughter

Science minister

Governments have been supportive of science investment but austerity is the new black: we had to include examples of 'real world' benefits

Lessons: realism and hands-on



LHC 2nd version has safety equipment, STOP button, better lighting and cabling, etc

Lasers roadshow has three times the number of hands-on activities than original roadshow



Another lesson

Surprise people!

Take your exhibit to places they don't expect to see
“science” – spark their curiosity: eg

- LHC pop-up exhibit in Wrexham town centre
- Lasers roadshow at National Football Museum, Manchester



Impact

800,000+ visitors since July 2012

Extremely high evaluation scores from visitors,
some evidence of lasting impact

Some caveats: only works if you have “real”
scientists exhibiting

Each exhibit ~£30K in total – transport extra



Science is for everyone



Science & Technology
Facilities Council

Questions?



Science & Technology
Facilities Council