What’s in Outreach?

An essential tool

Robert Hollow | Education Officer
30 June 2012
Outreach & Communication
Outreach & Communication

What is outreach?
Why do outreach?
IAU Commission 55:

http://www.communicatingastronomy.org

*It is the responsibility of every practising astronomer to play some role in explaining the interest and value of science to our real employers, the taxpayers of the world.*
IAU Commission 55

Mission statement

To encourage and enable a much larger fraction of the astronomical community to take an active role in explaining what we do (and why) to our fellow citizens.

To act as an international, impartial coordinating entity that furthers the recognition of outreach and public communication on all levels in astronomy.

To encourage international collaborations on outreach and public communication.

To endorse standards, best practices and requirements for public communication.
Washington Charter

For Funding Agencies

For Professional Astronomical Societies

For Universities, Laboratories, Research Organizations and other Institutions,

For Individual Researchers:

Support efforts to communicate the results and benefits of astronomical research to the public

Convey the importance of public outreach and communication to team members

Instill this sense of responsibility in the next generation of researchers

http://www.communicatingastronomy.org/washington_charter/charter_final.html
Task One

Explain your work
Handy report


Do Scientists Understand the Public?

Chris Mooney

AMERICAN ACADEMY OF ARTS & SCIENCES
TIPS 1

Don’t be afraid to give it a try
Know your audience
Tell a story
Be yourself
Include the personal
Avoid the …
What are the traps?
Jargon

*JOHANNES KEPLER'S UPHILL BATTLE*

...SO, YOU SEE THE ORBIT OF A PLANET IS ELLIPTICAL.

WHAT'S AN ORBIT?

WHAT'S A PLANET?

WHAT'S 'ELLIPTICAL'?

© Sidney Harris
“I think you should be more explicit here in step two.”

© Sidney Harris
Someone told me that each equation I included in the book would halve the sales. I therefore resolved not to have any equations at all. In the end, however, I did put in one equation, Einstein’s famous equation, $E = mc^2$. I hope that this will not scare off half of my potential readers.

S. Hawking
A Brief History of Time (1988)
CSIRO

What's in Outreach?
Images

Of course these are false colors. The reds are really greens, the greens are reds, the blues are oranges, and the oranges are blues.

MAKE SENSE.

© Sidney Harris
http://www.atnf.csiro.au/research/GASS/
Humour

© Sidney Harris

Trying To Describe The Size Of The Big Bang
Work with your media liaison team
Rule One

Know your audience!!!
Who are they?

Public talk
Schools
• Pre-school
• Primary
• Secondary
Teachers
Scouts/Guides
Service groups

Amateur Astronomers
Journalists
Politicians
Industry
Friends
Family – the BBQ Test
Be Prepared – Task Two

1. What are the questions you are going to be asked?

2. What are your responses?
Typical questions

• What are you hoping to find?
• Why are you doing this?
• How much does your project cost?
• Why should/do we spend money on this?
• What is the point of this?
• Are there aliens?
Tips 2

Don’t tell people what you do

DO tell them what problem you are trying to solve
How to get involved

Ideas?
ASA EPOC

http://asaepoc.wordpress.com/

About

Many members of the Astronomical Society of Australia (ASA) are involved in astronomy Education and Public Outreach at all levels of society, ranging from school visits to university education, media contacts and activities for the general public. The Education and Public Outreach Chapter (EPOC) is a Chapter of the ASA providing a forum to discuss and promote these activities, whilst also initiating some of its own.

The Mission of EPOC is:

To advance the level of public awareness of the excitement of astronomy and of the international importance of Australian astronomy, while promoting the teaching of astronomy to students and the public.

The ASA is a signatory to the Washington Charter for Communicating Astronomy to the Public, which acknowledges the responsibility of astronomers to effectively communicate astronomy to the public for the
IAU OAD
astronomy for a better world

http://www.astronomyfordevelopment.org/
www.iaucomm46.org
Astrotourism

In 2006 Fred Watson joined forces with Marnie Ogg from to create Illuminating Tours. Having already extensively travelled the world, the pair team up with professional travel partners to incorporate exotic destinations to exclusive visits to institutes, observatories and fascinating corners all around the world on a tour program suitable for the astronomer and their partner. There are a number of interesting tour programs displayed below, to destinations including the Atacama and Peru, South Africa and Hawaii. Join us for an unique adventure or request further information about our upcoming tour program.

Australian Eclipse 2012
9-15 November 2012
*** 2 Bedroom Sea Facing Room available - due to cancellation. *** Ask for more details
Learn More and Sign Up

Fire in the Sky - with Fred Watson
8 January - 24 January 2013
It’s no exaggeration to say that 2012/13 is a vintage year for celestial phenomena - including a spectacular display of the Northern lights. Due to the varying activity cycle of the Sun, our planet is currently bathed in an enhanced stream of subatomic particles in the peak of an eleven year cycle resulting in vivid displays of aurorae. Join Fred Watson for an
An issue
Balance

Resources & help?
Inspiring Australia

*Inspiring Australia: A national strategy for engaging with the sciences*

New Media

- Twitter
- .astronomy
- Facebook
- Astronomy Cast
- Star Stryder
- 365 Days of Astronomy
- SarahAskew

CSIRO. What's in Outreach?
CAP Journal

http://www.capjournal.org/

free peer-reviewed journal for astronomy communicators, online and in print
http://www.portaltototheuniverse.org/
Organisations

http://www.asc.asn.au/

AUSTRALIAN SCIENCE COMMUNICATORS
for those who make science accessible
School programs

Telescopes in Schools
Pilot Program

School of Physics
Astrophysics

http://telescopesinschools.wordpress.com/

Space to Grow

http://physics.mq.edu.au/astronomy/space2grow/
PULSE@Parkes

Yr 10-12 students

Observe pulsars remotely using 64m Parkes radio telescope

Stage 1 of ASKAP student observations

http://outreach.atnf.csiro.au/education/pulseatparkes/
http://www.scientistsinschools.edu.au/

Heavy demand for astronomers
- YOU ARE POPULAR!

Sign up!
The Australian Curriculum

New national curriculum in Science K-10 and Physics 11-12.

http://www.australiancurriculum.edu.au/

You can provide feedback until 20 July for Physics draft!

ACARA: Australian Curriculum, Assessment and Reporting Authority
Australian Curriculum: Science Foundation – Year 10

Three integrated strands:

Science Understanding
Science as a Human Endeavour
Science Inquiry Skills
Foundation

Daily and seasonal changes in our environment, including the weather, affect everyday life (ACSSU004)

Year 3

Earth’s rotation on its axis causes regular changes, including night and day (ACSSU048)
Year 5: Science Understanding

Year 5

The Earth is part of a system of planets orbiting around a star (the sun) ACSSU078
Year 7: Science Understanding

Year 7

Predictable phenomena on Earth, including seasons and eclipses, are caused by the relative positions of the sun, Earth and the moon (ACSSU115)
Year 10: Science Understanding

Year 10

The universe contains features including galaxies, stars and solar systems and the Big Bang theory can be used to explain the origin of the universe (ACSSU188).
Science as a Human Endeavour

Nature & development of science

Use and influence of science
Science Inquiry Skills

Questioning & predicting
Planning & conducting
Processing and analysing data and information
Evaluating
Communicating
Idea?

Opportunities?
Outreach can take you places
All photos: R. Hollow
Don’t be afraid to get involved
Start simply
Find your niche
Thank you

CSIRO Astronomy and Space Science
Robert Hollow
Education Officer

+61 2 9372 4247
robert.hollow@csiro.au
http://outreach.atnf.csiro.au/