Astronomy outreach: what, how, and why?

Karen Lee-Waddell | WALLABY Project Scientist, Research+ Postdoctoral Fellow
Co-learnium, Mar 2020
observational astronomer using radio observatories all over the world
Where my journey began...

Science Rendezvous 2011 in Kingston, Ontario
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Science Rendezvous 2011 in Kingston, Ontario

From humble beginnings on campus, to an annual event held in an arena featuring 50+ booths/activities
First “15 mins of fame”

Thank-you Leslie Sage, CASCA Press Officer

First press release = interview on national TV, newspaper articles

Live interview on CTV

Kingston Whig Standard
Various opportunities

Formally organized outreach events, volunteering in schools, observatory talks, “sidewalk astronomy”/ informal settings

@KarenLeeWaddell

Penrith Observatory

Pia Wadjari Remote Community School visit to MRO

AstroFest

Astronomy Night: The Cosmic Dances of Galaxies

Primary school partnership
Various opportunities

Find an audience, talk to anyone who wants to listen

Teacher training workshop

CSIRO, National Science Week video

Karen Lee-Waddell
Astrophysicist, working with world-leading telescope ASKAP

still overwhelmingly persists. “When you ask 10-year-olds to draw a scientist, they will draw an old guy with glasses,” says Canadian astrophysicist Karen Lee-Waddell, PhD, post-doctoral fellow at the Commonwealth Scientific and Industrial Research Organisation in Sydney, who studies how the universe all-time high. But just because women are studying engineering doesn’t mean they’ll pursue a career in it. According to data from Adecco, a staffing-solutions company, the reasons why people switch paths include unequal pay, gender biases and a lack of support.

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fashionmagazine.com
Why do STEM outreach?

- government funding (e.g. current/future telescopes & facilities)
- help educate the general public (math is awesome!)
- professional development
- inspire the next generation of STEM professionals
- break stereotypes
Why do STEM outreach?

If kids don’t see it, how can they dream to do it?

#DrawAScientist → 30% drew females, most drew beakers
How? Where to begin?

• Working with Children Check (w/ national police check)
  • https://www.kidsguardian.nsw.gov.au
  • https://workingwithchildren.wa.gov.au

• volunteer for public outreach activities (e.g. ASTROfest, Science Week, open days, observatory talks)

• CSIRO STEM Professionals in Schools (see next slide)

• social media presence (e.g. Twitter, Instagram, TikTok)
CSIRO STEM Professionals in Schools

- partnership with a specific teacher for an extended period (repeat visits, support curriculum, develop lessons)
- provide support (webinars, network)
- increased visibility within CSIRO

Partnership stories >
Each STEM Professionals in Schools partnership is unique. Here are a collection of partnership stories to inspire you.
Tips and advice

- be engaging
- know and speak to your audience
- adapt to situations
- be relatable
- do not use jargon (use analogies)
- connect with your audience
- be enthusiastic
- you are the expert
- you enjoy your job
Tips and advice

• have some knowledge about “hot topics”
• black holes, gravitational waves, aliens
• current events / news release
• have responses / discussion points for key questions
Tips and advice

- if you don’t know an answer to a question, say so
- truth better than speculation (preface your response)
- address what you do know
- direct to certain websites
- follow up, if possible
- opportunity to inspire

Science Week guest speaker

@KarenLeeWaddell
Selected Resources

Observatory sites:
• https://public.nrao.edu/radio-astronomy/

Useful sites & applications:
• https://stellarium.org (virtual planetarium)
• http://www.solarham.net (planning solar observing)
• https://www.nasa.gov/stem (activities)
Thank you!

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