

Public Outreach at RAL: Engaging the Next Generation of Scientists and Engineers

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Introduction to STFC & RAL

- The Science and Technology Facilities Council (STFC) is one of seven research councils in the UK. It is responsible for supporting, co-ordinating and promoting research, innovation and skills development in seven distinct fields².
- This includes running several large facilities, some of which are located at the Rutherford Appleton Laboratory, about fifteen miles south of Oxford.
- Facilities at RAL include the ISIS neutron spallation source³, The Central Laser Facility⁴, the UK WLCG Tier 1⁵, the JASMIN Super Data Cluster⁶, and various space engineering facilities⁷.



Rutherford Appleton Laboratory & the Harwell Campus, Oxfordshire

What Is It and Why Do It?

Outreach encompasses activities that engage students and the general public and help inform them about our work and interest them in science. For example: tours, workshops, student placements, lectures, road shows, etc. We do this because:

- We enjoy it!
- It provides staff with an opportunity to show off the cutting edge science and technology they encounter every day.
- Our facilities, and the work that we do, mean that we are uniquely positioned to enthuse the next generation of scientists and engineers, encouraging young people to consider careers they may not have done otherwise.



Young Rewired State Workshop, Rutherford Appleton Laboratory 2014

- The organisation also often benefits directly from outreach activities. The work students on placement carry out is usually very useful to the host group. For example the Tier 1 is currently using approximately 10 different applications developed by placement students.
- It also contributes to recruitment: people encounter the STFC through outreach and go on to apply for jobs.
- The Royal Charter establishing The STFC requires that we should: “generate public awareness”, “communicate research outcomes”, “encourage public engagement and dialogue”, and “disseminate knowledge” in relation to the science and engineering we undertake⁸.

The Scientific Computing Department

The Scientific Computing Department is the department of the STFC to which the majority of the authors of this poster belong. It provides computing facilities to the large science facilities at RAL, as well as doing a variety of other work; including hosting the JASMIN cluster and running the UK WLCG Tier 1.



Young Rewired State Workshop, Rutherford Appleton Laboratory 2014

The department undertakes a variety of different outreach work, including:

- Ada Lovelace Day:** As part of Ada Lovelace day⁹ we ran a day of space themed Arduino based activities for school groups of 13-14 year olds.
- Engineering Education Scheme¹⁰:** we team up with a group of 16-18 year old students from a local school, setting them an engineering based challenge and mentoring them as they produce a solution.
- Young Rewired State¹¹:** we host a week long workshop for 11-18 year olds as part of the national event. We introduce them to the concept of open data and then help them create applications to use it. We then spend a weekend at a national event.
- Work Placements:** We host local 14-18 year olds for 1-2 week work placements, introducing them to the workplace and to computing.

243,000

11-18 Year olds reached through public engagement activities in 2014¹

91,000

5-11 Year olds reached through public engagement activities in 2014¹

18,000

Teachers reached through public engagement activities in 2014¹

10,000

Members of the public expected at the July Harwell Campus open day

>500

Applications by 14-18 year olds for work experience placements at RAL in 2015

10

Applications currently in use at the RAL WLCG Tier 1 developed by students

- Erasmus Students:** We host Erasmus students for three month summer placements.
- Machine Room Tours:** We provide tours of our computing facilities for groups of students and members of the public visiting our site.
- I'm a scientist, Get me out of here¹²:** Members of the department have taken part in this scheme, answering questions put to them by 11-16 year olds online on the subject of 'big data'.
- Harwell Campus public open day:** In July the computing department will be taking part in this open day, expected to welcome ~10,000 on to the site.

Conclusion

Outreach activities bring widespread benefits to our organisation and we would be interested in sharing experiences with other organisations.



References

1 – STFC Impact Report 2014 -

http://www.stfc.ac.uk/files/3269/3269_res_5.pdf

2 – About Us - <https://www.stfc.ac.uk/1775.aspx>

3 – ISIS - <http://www.isis.stfc.ac.uk>

4 – CLF - <http://www.stfc.ac.uk/clf/>

5 – RAL Tier 1 -

https://www.gridpp.ac.uk/wiki/RAL_Tier1

6 – JASMIN - <http://www.ceda.ac.uk/projects/jasmin/>

7 – RAL Space - <https://www.stfc.ac.uk/RALSpace/>

8 – STFC Royal Charter, 2007 -

<https://www.stfc.ac.uk/1787.aspx>

9 – Ada Lovelace Day - <http://findingada.com/>

10 – Engineering Enterprise Scheme -

<http://www.etrust.org.uk/engineering-education-scheme>

11 – Young Rewired State - <http://www.yrs.io/>