The Douglas Bomford Trust, The Bullock Building, University Way,
Cranfield, Bedford MK43 0GH
Telephone: + 44 (0) 1234 750876
www.dbt.org.uk enquiries@dbt.org.uk
Secretary: Paul Miller Administrator: Elizabeth Stephens

Activities of the DOUGLAS BOMFORD TRUST

An update

The Annual General Meeting and General Management Board meetings held in November

The Annual General Meeting of The Douglas Bomford Trust was held on 10th November 2015 at Cranfield and was attended by eight trustees and two administrative staff.

At this meeting:

- **Antony Burgess stood down as a trustee: Antony has been an active trustee and has contributed much to the work of The Trust over the past six years.**
- **Nick August was appointed as a trustee to succeed Antony: Nick is a farmer from the Cotswolds with 500 hectares of arable land on the Oxfordshire/Gloucestershire border where he also operates a contracting business. He has a strong interest in precision farming and plays an active role in projects conducted on his own land.**
- **The Annual Report and accounts for the financial year ending 31st March 2015 were accepted and signed: these will be submitted to The Charities Commission and made available via The Trust's web site.**

A meeting of the new Board of Trustees was held following the AGM.

At this meeting the Trustees:

- **Reviewed the administration of The Trust;**
- **Received a report concerning the financial management of The Trust's assets - Jonathan Bomford, Anthony Burgess, Elizabeth Stephens and Paul Miller had met with the three fund managers who handle Trust funds in October and were able to update Trustees on issues relating to these funds;**
- **Reviewed the progress of activities that are funded by The Trust;**
- **Examined new proposals for funding and made recommendations as to which of these proposals should be funded: at this time much of the Trust's income has been allocated to on-going projects and no new major projects could be started in the coming six months.**

The Trust continues to support the Arkwright Scholarship scheme

In September 2014, The Trust agreed to support The Arkwright Scholarship Scheme by sponsoring two students - Mark Holliday and Oliver Rees - working towards their 'A' Levels and with an interest in agricultural engineering as a possible future career - *see Winter 2014 Landwards*.

We have maintained contact with the students during the year and offered to arrange some work placement during the summer although ultimately both found activities nearer to their home address. These students will be supported for a further year running up to their 'A' level examinations.

The Trust has extended its involvement with the Arkwright Scheme by sponsoring a further two students - Andrew Knight and Alex Williams - for the next two years. Andrew and Alex were presented with their scholarships at a prestigious ceremony held at the Mermaid Theatre in London attended by both sets of parents as their guests.

Arkwright scholars Andrew Knight (left) and Alex Williams (centre) with Douglas Bomford secretary Paul Miller having received their scholarships at the 2015 presentation event

Studentships & Prizes

STUDENTSHIPS

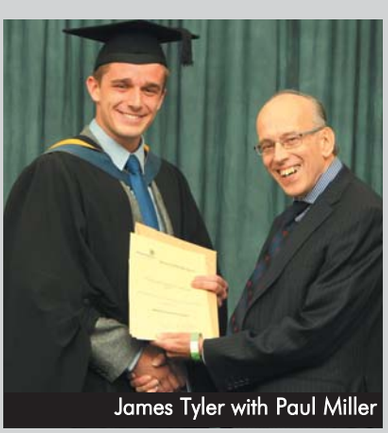
More than twenty applications were received for DBT studentships for the 2015/16 academic year. These awards typically provide successful undergraduate students with up to £1,500 to support their studies during the year.

Eight students were interviewed at Harper Adams University on 18th November and the results of the selection process are currently being finalised.

PRIZES

The Trust awards prizes to students at Cranfield, The Royal Agricultural and Harper Adams Universities on an annual basis -see Autumn 2015 Landwards for details of presentations at Cranfield and The Royal Agricultural University.

This year The Douglas Bomford Trust prize 'For the best FdSc Agricultural Engineering student' at Harper Adams University was awarded to James Tyler. The award, comprising a scroll and a cheque, was presented to James by Paul Miller, secretary to The Trust, at the Harper Adams University Graduation day on 25th September 2015. James, who comes from a local farming family, will be returning to Harper Adams University for the 2015/16 academic year so as to top up his qualification to a BSc (Hons) degree.



James Tyler with Paul Miller

The Trust is represented at a reception for Harper Adams University donors

Jonathan Bomford (trustee) and Paul Miller (Trust secretary) attended a reception at Rabobank in London that was organised to thank organisations that had encouraged Harper Adams University in its work through the provision of student scholarships and capital development funding.

The reception was attended by the Chancellor of the University, HRH The Princess Royal and she spent time talking directly to all of the organisations represented at the event.

Jonathan Bomford (trustee) describing aspects of The Trust's work to The Princess Royal at the Harper Adams University reception

PROJECT REPORT

DBT funded PhD student, Alex Cooke, holds soil erosion research demonstration event

Alex Cooke of Cranfield University held a day long event demonstrating her PhD research on the 25th September in Herefordshire.

Her work evaluates the use and adoption of filter socks for the control of soil erosion, runoff and nutrient losses from agricultural lands under current and extreme rainfall events. Filter socks are currently widely used in the US for sediment control on construction sites and her research aims to make them applicable to UK agricultural land. In addition to DBT support, the research is also part funded by the Environment Agency (EA).

The demonstration event was attended by DBT trustee, Peter Redman, along with other delegates from a wide range of backgrounds. The day involved presentations from Andrew Osbaldiston (EA) on the issues of water quality in the Wye catchment; Dr Robert Simmons (Cranfield University) on the principles and mechanisms of soil erosion; and Dr Britt Faucette (Filtrexx International) on filter socks and their current US applications.

Following lunch there were field demonstrations from Mick Boyle (Scotbark UK) on the installation and application of filter socks in the UK; and Alex Cooke (Cranfield University) presented the field trials and instrumentation used to monitor the effectiveness of different filter socks in controlling losses of runoff, soil and nutrients.

LEFT & RIGHT: The demo day in Herefordshire

BELOW LEFT: The plots

BELOW: A Tank

Spreading the dirt: IYS 2015 at Cranfield

Oliver Pritchard, Alexandra Cooke and Jacqueline Hannam

Cranfield Soil and Agrifood Institute, School of Energy, Environment and Agrifood, Cranfield University

If you weren't already aware, 2015 is the United Nations Food and Agricultural Organisation's International Year of Soils (IYS).

The aim of IYS is to encourage further awareness and understanding of soil for food security and ecosystem functions. However, soil supports much more than this, including the management of flood risk, supporting our infrastructure as well as providing a climate buffer. As soil-science PhD researchers and academics at Cranfield University's Soil and Agrifood Institute, we have been doing our bit for the IYS.

We are acutely aware of the benefits of social media for immediately outreaching to large numbers of people. As such we have been using this medium to actively engage with the scientific, farming, and environmental communities, as well as the general public through both a student-led blog, The Dirt Doctors (*www.thedirtdoctors.com*) and Twitter (*@DirtDocs*).

Since the blog's conception earlier this year, it has had thousands of views spanning almost one hundred countries. But the really fun and engaging part has been the several outreach activities with local schools and the general public. In the remainder of this article, we provide you with a flavour regarding some of the activities that we have been involved with.

SOAPBOX SCIENCE

Cranfield University soil science academic, Dr Jacqueline [Jack] Hannam, has participated in several Soapbox Science events.

Soapbox Science being a platform for women scientists, spanning a range of disciplines, to stand on their Soapbox (literally a box) and explain what they do in their day-to-day research to a general public audience. Having presented at events in London and Manchester, and drawing many crowds, Jack is helping dish the dirt about soil.

Over the course of an hour or so, she explains what soils are, how they are mapped/monitored, their importance to society and what the future potentially holds. The event also spawned the creation of the now prolific, 'soil megamap' which shows the distribution of Great Britain's soils. The megamap has proven to be a great tool for soils outreach, prompting many interesting questions whilst engaging the public's understanding of the soils in relation to where they live.

Alex Cooke explaining hand texturing of soil

STONY STRATFORD PRIMARY SCHOOL

Due to Jack's success, we got the bug for getting involved in soils outreach, with the aim to help inspire people to potentially pursue a career in soil science.

To this end, earlier this year we visited a school in Stony Stratford near Milton Keynes, where primary school children aged 5-11 were given a brief taste of the different specialisms within soil science, forming part of their annual 'science week'.

Despite being greeted by the head-teacher with the line "*you know that being soil scientists is a bit weird, right?*", our enthusiasm wasn't put down. The day's activities involved hand texturing; microscopy of soil particles and biological constituents as well as understanding the distribution of soils using the megamap. The kids left with muddy hands and a soil bug, courtesy of the British Society of Soil Science.

3D scanning of soil monolith

ASPIRE STEM EVENT

Recently, Cranfield University hosted an Aspire STEM (Science, Technology, Engineering and Mathematics) event for girls aged between 13-15; those either just embarking or half way through their GCSEs, and so beginning to think about possible future careers in STEM.

As the audience was a bit older, our activities changed to allow them to understand the different scales and technologies involved in collecting and using soils data. This included use of the 3D scanner (for scanning soil surfaces) alongside 3D visualisation of terrain and soil data for Great Britain.

This not only allowed the girls to use some cutting-edge technology, but also understand how landscape affects different soil types, along with giving an insight into the uses of soil data in the agricultural and industrial sectors.

SUMMARY

What we've learnt is that outreach is valuable for both us as academics and the students we are engaging with.

For us it provides insights into how our research can benefit non-academic communities. For the students, it gives them an understanding of different subjects, and consequently the practical opportunities and the careers they will consider in the future.

In our case, it exposes students to two career paths they may not have considered and which are suffering from a decrease in workforce; soil science and engineering.

Outreach is hugely rewarding and our advice to anyone is that if you can spare some time, get involved!