Revisiting Lord Kelvin’s historical geothermal borehole

The Chancellor’s Fund has made a £6,000 award to the School of Engineering to develop a project that will provide a unique insight into urban climate change and geothermal energy.

In 1868, Lord Kelvin (1824–1907) measured heat flow from the Earth’s interior in a borehole for the first time. The grant will support preparatory work using ground-penetrating radar to facilitate the drilling of a modern borehole close to the site of Kelvin’s 19th-century ‘Blythswood Borehole’.

Lord Kelvin was Professor of Natural Philosophy at the University for 53 years. In the 1860s he realised that subsurface temperature measurements could be taken in boreholes, often created to supply water for industry. One such borehole identified was at Blythswood in Renfrew, now part of the Diageo whisky storage complex.

Professor Paul Younger, Rankine Chair of Engineering, said: ‘Kelvin’s temperature measurements made in 1868 are still relevant today in work currently under way to assess the geothermal potential of Glasgow. We are investigating the potential of sandstone 2km beneath the city to yield low-carbon heat, as part of a campaign to eliminate fuel poverty.

‘As the surface temperature of the Earth has increased, so too has the shallow subsurface, particularly under urban developments that absorb more of the sun’s energy.

‘Relatively little work has been done on measuring these ‘Urban Heat Islands’ and revisiting the site of Lord Kelvin’s borehole will also allow us to quantify the overall heating effect from global warming and urbanisation over the past 150 years.’

• Veterinary Medicine student Laura Muir (pictured after her 1500m win at the British Indoor Championships in Sheffield), one of our talented athletes benefitting from the Chancellor’s Fund Sports Bursary Programme support.
School chemistry collaboration aims to discover new crystal compounds

The Chancellor’s Fund has made a grant of £6,000 to the School of Chemistry to fund the 2015-16 Schools Collaborative Crystal Chemistry Project. Supported by University staff, undergraduate and postgraduate chemistry students will work with schools in the Glasgow area to search for chemical compounds that are new to science.

Dr Daniel Price, who is leading the project with Dr Beth Paschke said: ‘The support from the Chancellor’s Fund means we will be able to scale up the project following a successful pilot last year. We hope to recruit about 30 secondary schools into promoting scientific curiosity in their pupils by giving them their own original mini-research projects with a real possibility of discovering new compounds in the classroom. The funding will cover the costs of supplying all the initial salts to schools; it will also allow the development of high-quality support materials for our workshops on crystal shapes and fund a mini-symposium where pupils from partner schools will be able to present their results at a poster session.’

You can follow the activities of the project and the students as they search for new chemical compounds at www.chem.gla.ac.uk/wp/scccp.

Opportunity knocks for lacrosse student

Over a number of years the Chancellor’s Fund has been delighted to support the activities of the Glasgow University Sports Association (GUSA) through the Chancellor’s Fund for Sport, which gives a number of small grants for students undertaking exceptional and one-off sporting activities. A further grant of £5,000 was made in April 2015.

Tom Gebbie is GUSA President. ‘The Chancellor’s Fund for Sport allows individual students or groups of students at the University the chance to undertake sports projects or related trips they would otherwise be unable to – often a once-in-a-lifetime experience. All our students are encouraged to ensure that, wherever their project is, they interact fully with local communities and promote sport and the University of Glasgow worldwide.’

Charlotte Toms, a 4th-year History & Theology student, travelled to Jamaica to work with the charity Fields of Growth, who use lacrosse to promote positive social impact and education projects.

During her trip she ran a summer lacrosse camp for girls, becoming coach for the first under-19 Women’s National Squad. Charlotte said ‘The Chancellor’s Fund allowed me to fulfil my dream of coaching lacrosse abroad. ‘Not only did I get to run lacrosse camps across Kingston, I also had the honour of being a national coach! I have taken these skills back to the lacrosse club at Glasgow and have already begun coaching our freshers in basic skills. I also feel much more qualified in having a leadership role, as being an intern we were given the responsibility of looking after volunteers.’

Welcome from the Chancellor

I am delighted to announce that at our last meeting the Advisory Board were able to make our 400th grant from the Chancellor’s Fund since it was established in 1999 – all thanks to your ongoing support. The 400th grant was directed to students competing in sport at the highest level whilst undertaking their degree. This was one of sixteen grants made so far this year and you will find them all listed on the back cover of this newsletter.

I would also like to take this opportunity to say thank you to all those who responded to our recent mailed appeal. We are especially grateful for regular gifts, which ensure a continuing income stream to enable projects like the ones mentioned in this issue to happen and allow students and the wider University community to continue to benefit. If you would like to make a gift or increase your current regular donation, do get in touch using the giving form or details attached.

Professor Kenneth Calman
Chancellor
The Chancellor’s Fund has given an award of £6,000 to help establish a new student initiative that will use 3D printing to create prosthetic hands. It also hopes to develop low-cost tactile ‘skin’ to allow amputees to regain their lost sensory feeling.

Around 6,700 major limb amputations are carried out in the UK each year, but at a cost of £30-60,000 most prosthetics are unaffordable to the average patient. The low-cost prosthetic limbs developed by the student club will be able to perform similar tasks to advanced prosthetics, including individual finger movement. While 3D printing will dramatically lower the cost of prosthetic limbs, the electronic or tactile skin developed through recently funded EPSRC fellowship project PRINTSKIN will allow amputees to feel how soft/hard or hot/cold an object is.

Dr Ravinder Dahiya of the School of Engineering is overseeing the project. Through the project the students will learn about various components of prosthetic limbs including 3D design, tactile skin development, electronics and sensory systems, power management, integration of flexible/bendable substrates and programming. In the process, they will broaden their knowledge of 3D design, printing technology and prosthetics assembly. Without the Chancellor’s Fund grant we would not be able to add such rich value to the student learning experience by enabling them to apply their engineering knowledge for societal needs.’

The student club will also link and share knowledge with global volunteer communities such as e-NABLE and Jaipur Foot who create free non-sensory prosthetic limbs for those in need.

Getting theGIST of science and technology

In April 2014, the Chancellor’s Fund awarded £1,900 to support printing of theGIST – Glasgow Insight into Science and Technology – a free student publication featuring articles by undergraduate and postgraduate students at the universities of Glasgow and Strathclyde as well as original pieces created by students at the Glasgow School of Art.

With nearly 100 contributors, theGIST produces regular articles, videos and podcasts with the goal of communicating science clearly, accurately and passionately. Recent articles have included ‘Weapons of tumour mass destruction,’ about the potential therapeutic role of bacteria in the war on cancer and ‘the Urban Jungle’, which focussed on the hidden lives of the animals that have made a home in our towns and cities. The publication is distributed on the three campuses and reaches over 1,000 students.

Jamie Gallagher is Public Engagement Officer at the University. He says: ‘The GIST magazine, produced through the Chancellor’s Fund, is not only a fantastic final product which demonstrates the extraordinary work taking place across the University, but also provides an excellent training opportunity for students at all levels. The magazine is testament to a lot of hard work and it is very professionally put together. It showcases the University’s research as well as the creativity, enterprise and commitment of our students.’

You can view theGIST’s articles, videos and podcasts at www.the-gist.org.
Chancellor’s Fund giving: how you can help make a difference

We commemorate all gifts of £250 and above with an inscription as a way of acknowledging your support. Your chosen dedication will appear in our publications, such as Giving to Glasgow, and also on our Online Benefactor Wall, a web-based version of the traditional donor wall. Unless you have chosen to remain anonymous your name or dedication will appear on these lists as a means of recognising your generosity. All Chancellor’s Fund donors receive this newsletter twice a year, which will include information about the initiatives made possible as a direct result of your gift.

Your vision and generosity will ensure that our students thrive in a challenging academic environment, taught by eminent academics, and benefiting from some of the best facilities that a university can offer.

Gift naming opportunities over four years are as follows:

<table>
<thead>
<tr>
<th>Giving level</th>
<th>Monthly gift</th>
<th>Annual gift</th>
<th>Please tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilmorehill</td>
<td>£5</td>
<td>£60</td>
<td></td>
</tr>
<tr>
<td>Avenue</td>
<td>£10</td>
<td>£120</td>
<td></td>
</tr>
<tr>
<td>Bute</td>
<td>£20</td>
<td>£240</td>
<td></td>
</tr>
<tr>
<td>Tower</td>
<td>£40</td>
<td>£480</td>
<td></td>
</tr>
<tr>
<td>Kelvin</td>
<td>£100</td>
<td>£1,200</td>
<td></td>
</tr>
<tr>
<td>Major gifts</td>
<td>For gifts over £10,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How to contact us
Editor: Barrie Bryson
Tel: +44 (0)141 330 4951
Email: barrie.bryson@glasgow.ac.uk

Development & Alumni Office
3 The Square
University of Glasgow
Glasgow G12 8QQ
Tel: +44 (0)141 330 4951
Fax: +44 (0)141 330 4647
Email: campaign@glasgow.ac.uk

Produced by the Development & Alumni Office and Marketing Communications, University of Glasgow.

Photography supplied by the University Photographic Unit, Celso Pupo/Shutterstock.com, and Shutterstock.

Printed by the University Print Unit.
© University of Glasgow, October 2015
University of Glasgow, charity no. SC004401
University of Glasgow Trust, charity no. SC008303

Want to help? Here’s how

Direct Debit
If you would like to give a regular gift, simply complete the direct debit form overleaf and return it to the Development & Alumni Office, 3 The Square, University of Glasgow, Glasgow G12 8QQ. Please keep the Direct Debit Guarantee slip at the very bottom of the page for future reference.

Bequests
Bequests are favoured by many alumni and friends who want to make a difference after their death. A gift of this kind also helps to reduce your inheritance tax liability. Please call +44 (0)141 330 4951 for more information.

Stocks and shares
Since 6 April 2000, individuals have been eligible for tax relief on gifts of certain shares, securities and other investments. This is in addition to capital gains tax relief on gifts of assets to charity. Tax relief for donors is based on the value of the shares on the day they are transferred to the University. If you would like to support your chosen project by gifting shares and securities and would like more information, simply call the Development & Alumni Office on +44 (0)141 330 4951.

Giving from the USA
US taxpayers can give tax-deductible gifts to the American Alumni of Glasgow University, an independent charitable corporation organised in the United States that has been recognised by the Internal Revenue Service as a section 501(c)(3) charitable organisation. All donations to it are deductible as charitable contributions to the full extent permitted by law. Its Board of Directors will determine the use of all gifts. Contributions should be made payable to: American Alumni of Glasgow University, 183 Wolf Harbor Road, Milford, CT 06461–1961, USA.

Giving from Canada
Canadian residents will be provided with a receipt for their tax records from the University. Cheques should be made payable to ‘University of Glasgow’ (and not the University Trust) to be able to claim tax relief.

Data Protection Act 1998
Under the codes of the 1998 Data Protection Act, the University of Glasgow will use the information provided by you for University education, social and charitable purposes only.

Freedom of Information (Scotland) Act 2002
The Development & Alumni Office acts in accordance with the terms of the Freedom of Information (Scotland) Act 2002. Information on donations received by the University of Glasgow is provided in Giving to Glasgow and other project-specific newsletters. Information is included only on donors who have given us their express permission to do so.
### University of Glasgow Trust Donation Form

**Chancellor’s Fund Newsletter – issue 22; October 2015**

The University of Glasgow Trust is a registered charity, No. SC008303
The University of Glasgow is a registered charity, No. SC000440

---

#### Making a single gift

- [ ] I would like to make a single gift to the University of Glasgow Trust of £
- [ ] I enclose a cheque/charity voucher made payable to University of Glasgow Trust or
- [ ] Please debit my: Visa       Mastercard       Maestro       Name on card

**Card No**

**Start Date**

**Expiry Date**

- [ ] Issue Number
- [ ] Security Code

---

#### Making a regular gift by Direct Debit

- [ ] I would like to make a regular gift to the University of Glasgow Trust of £
- [ ] I would like the payments to be taken from my account on the: 1st 15th
- [ ] of (month) – please allow one month from today’s date.

**Please specify your inscription if requested (BLOCK CAPITALS)**

---

#### Instruction to your Bank or Building Society to pay by Direct Debit

Please fill in the whole form using a ball point pen and return to:

*Development & Alumni Office, 3 The Square, University of Glasgow, Glasgow, G12 8QQ*

**Name and full postal address of your Bank or Building Society**

**To:** The Manager

**Address**

**Name of Account Holder(s)**

**Branch Sort Code**

**Bank or Building Society Account Number**

**Reference**

**Signature**

**Date**

---

#### Gift Aid

Gift Aid is a UK government tax scheme. As an exempt charity, the University of Glasgow/University of Glasgow Trust (The University) can reclaim basic rate tax on qualifying donations from UK taxpayers. This applies to donations you have made in the last four years and from the date of this declaration, until you notify us otherwise.

To enable the University to reclaim Gift Aid, please sign and date the Gift Aid declaration below.

**Signature**

**Date**

---

#### Making a donation

I confirm I have paid or will pay an amount of Income Tax and/or Capital Gains Tax for each tax year (6 April to 5 April) that is at least equal to the amount of tax that all charities or Community Amateur Sports Clubs (CASCs) that I donate to will reclaim on my gifts for that tax year. I understand that other taxes such as VAT and Council Tax do not qualify. I understand the University will reclaim 25p of tax on every £1 that I have given in the last four years and from the date of this declaration until I notify you otherwise.

**Signature**

**Date**

---

#### Banks and building societies may not accept Direct Debit instructions for some types of account

- This Guarantee is offered by all banks and building societies that accept instructions to pay Direct Debit.
- If there are any changes to the amount, date or frequency of your Direct Debit the University of Glasgow Trust will notify you 10 working days in advance of your account being debited or as otherwise agreed. If you request the University of Glasgow Trust to collect a payment, confirmation of the amount and date will be given to you at the time of the request.
- If an error is made in the payment of your Direct Debit, by the University of Glasgow Trust or your bank or building society, you are entitled to a full and immediate refund of the amount paid from your bank or building society. If you receive a refund you are not entitled to, you must pay it back when the University of Glasgow Trust asks you to.
- You can cancel a Direct Debit at any time by simply contacting your bank or building society. Written confirmation may be required. Please also notify us.
Latest projects

The latest projects to benefit from the Chancellor’s Fund are listed below.

**Sports Bursary Programme**
£4,500 To support talented athletes studying at the University in combining academic achievement with sporting excellence on a national and international stage.

**Establishing a ‘Women in Research’ network**
£1,500 To fund a series of networking events and mentoring across the Colleges of Medical, Veterinary & Life Sciences and Science & Engineering to support the retention and progression of female researcher staff.

**Greek and Latin in the summer**
£1,043 To provide a pilot online summer school for students between first and second year with the aim of improving students’ retention of language skills in the break between semesters.

**Sufism and Zen**
£4,484 To support an interdisciplinary symposium to encourage interaction between researchers in the UK and Japan across Islam and Buddhism and improve the University’s research profile in other world religions.

**Creative Practice Workshops on Brazilian Culture and Music**
£3,250 To inspire and engage students across all Colleges who are interested in learning about Brazilian music.

**Revisiting Lord Kelvin’s historical geothermal borehole**
£6,000 To fund preparatory work to facilitate the drilling of a modern borehole and provide a unique insight into urban climate change and geothermal energy.

**3D printed prosthetics with tactile interface**
£6,000 To launch a student club aiming to develop a low-cost tactile interface for 3D printed prosthetics and link to the global Enabling the Future network.

**Student Union Seminar**
£4,061 To help establish student relationships between our campuses in Scotland, China and Singapore through attendance at a student union seminar being organised by the University of Electronic Science and Technology of China.

**The Glasgow Human Futures Network**
£3,000 To establish a network that will bring together a broad and interdisciplinary grouping of academics, postgraduate and undergraduate students to explore key issues associated with the long-term human future.

**Brazilian culture and music** (above) were the inspiration for students at Creative Practice Workshops, supported by the Chancellor’s Fund and open to the general public.

**Schools Collaborative Crystal Chemistry Project**
£3,080 To launch a crystal-growing research project in Glasgow secondary schools.

**Chemistry Challenge**
£686 To support chemistry-related team-based activities to improve integration and interaction between 3rd- and final-year undergraduates.

**Banners Tales: In Print**
£2,500 To produce a booklet documenting the results of a research project on the Glasgow Museums collection of banners and other associated artifacts from the Scottish trade union movement.

**Student Volunteer Abroad Indonesia**
£2,400 To support a student group trip to volunteer in two established environmental projects in Indonesia.

**The Kelvin Ensemble**
£953 To support the sheet music hire costs of the Kelvin Ensemble, a student-run symphony orchestra.

**Chancellor’s Fund for Sport**
£5,000 To fund exceptional and one-off sport and recreation opportunities for students.

**The Coming of the Book: Ingenious (Digital) Impressions**
£3,033 To produce a student-led website and app of the Ingenious Impressions exhibition of early printed books previously on display in The Hunterian Art Gallery.

**Falkirk Wheel Lego project**
£2,500 To involve first-year engineering students in a design and construction activity to create models of the Falkirk Wheel using Lego.

**Thanks to all our donors...**

The following lists those who have given new gifts, named existing gifts or have been upgraded a level between 20 March and 16 September 2015. In addition to those listed below, there are a number of donors whose gifts are awaiting confirmation of naming or who have chosen to remain anonymous.

**Tower Donor**
Dr and Mrs L Ade Benedict†* • Christine J Furnish • E M B Hodges* • One anonymous donor

**Bute Donor**
Yuet-Hung Elton* • Glasgow University Club of America • Jeremy K Parkes* • Two anonymous donors

**Avenue Donor**
Hamish and Christina Scott* • One anonymous donor

**Gilmorehill Donor**
Brian Currie • Alexander G Nellies • Sigrun V O’Donnell • In memory of my husband, Alistair Robertson

* denotes donors that have been upgraded a giving club level. We would like to thank all donors for their continued support.

† denotes gifts to American Alumni of Glasgow University (AAGU). We would like to thank AAGU for their support.