

ESTA Chair's Report

Despite a change in personnel the Chair is still pushing forward. Jo would like to thank all the members of Council for their support. The following is a collation of the collaboration!

As in previous incumbents, continuing promotion of ESTA to the public and other teachers (eg. ASE and GA conferences), and liaising with geological societies and developing CPD events.

During the year there have been several meetings advancing the BESER initiative to support teachers of Earth Science. In June 2018 the final BESER meeting was held at the Geological Society of London. Attendees represented teachers, Higher Education and the Examination Bodies, and suggestions were made to ESTA Council and are to be presented at the AGM.

The new A level and GCSE are now in full swing, and it has been very heartening that teachers are setting up informal meetings and groups to support themselves, as a result we are now planning to support the formation of Regional Working Groups and the aim is to have a nationwide week in June 2019 to formally launch these. The South West Group have been the guinea pigs for this and special shout out to Gareth James at Cirencester College for his underpinning work.

The Association is moving into a new phase, and Geology as a subject is on the precipice. It is up to all of us what the outcome will be. If you want to continue teaching Geology as a subject – you are going to need to do something!

Jo Conway / Dan Boatright July 2018

ESTA Treasurer's report 2017/18

Income

Income from subscriptions total £9,792.32 and shows a slight increase since last year (£9613.5). Thanks are due to Elouise Gill, Membership Secretary who has dealt with subscriptions.

A generous donation of £6000 towards the 2017 ESTA Annual Conference was made by the Petroleum Exploration Society of Great Britain (PESGB). Long term ESTA members David Fuller and John Reynolds each donated £1000 to ESTA during the year. Thanks to David and John for their generous donations.

The advertising income total £270 is higher than last year (£190). Thanks to Maggie Williams for assisting Jen Noble with her work as the Advertising Officer during this financial year. Income from the Publishing Licensing Society (PLS) was lower this year generating £338.83 (£468.96 in 2016/17).

£5153.68 was transferred from the conference account. This being the profit from the 2017 ESTA Conference allowing for £6500 to be retained in the Conference account for future conference expenses.

Expenditure

Publications (Magazine and Newsletter) costs are lower (£7009.60) than last year (£7413.75). Costs are lower because *ESTA News* (the ESTA newsletter) is now distributed electronically.

Council expenses are lower this year (£2977.21) compared to £3805.10 in 2016/17). Council expenses include the costs of Council meetings, attendance at external events, Secondary meetings and workshops, Primary meetings and workshops and the upkeep of the website.

Publicity costs (£1307.66) are mainly incurred by attendance at conferences and careers fairs. Publicity costs have increased slightly (£1152.62 in 2016/17) because we have covered more events in the last year. ESTA presence at conferences serves to publicise the association to a wider audience.

ESTA Conference expenditure includes the transfer into the Conference account of the £6000 donation from PESGB. It also reflects some attendees paying conference fees into the main account. These fees were subsequently transferred into the Conference account.

ESTA first adopted a Reserves Policy during 2006-7 and a contingency sum is held to bridge cash flow problems and ensure, firstly, continuity in the production of *Teaching Earth Sciences* in the event of a large variation in income and, secondly, payments towards specific future projects under the PT Carr Award scheme. I wish to record that the level of reserves held on the last day of the financial year was £10,000.

I wish to place on record my thanks to Peter Williams and David Fuller for inspecting the 2017/18 accounts with guidance from John Reynolds. I also wish to thank past ESTA Treasurers Maggie Williams and John Reynolds for their continued help and support with treasuring activities. At the time of writing this report the accounts for 2017/18 have not been inspected.

Carole Rushall, ESTA Treasurer
July 2018

EARTH SCIENCE TEACHERS' ASSOCIATION – Accounts and Treasurer's Report for 2017-18			
	Current Account		
Income		2016-17	2017-18
	Adverts	£190.00	£270.00
	Conferences	£0.00	£0.00
	ESTA Conference 2016/2017	£320.00	£5153.68
	Gift Aid	£0.00	£0.00
	PESGB Conference Sponsorship for 2016 & 2017 conference.	£6500	£6000
	PESGB Donation for Educational Projects	£0.00	£0.00
	Promotions	£0.00	£24.00
	Publishers Licensing Society	£468.96	£338.83
	PT Carr Fund	£0.00	£0.00
	Sponsorship/ donations (other than from PESGB)	£0.00	£2000
	Subscriptions - ordinary	£9613.5	£9792.32
	Transfer from deposit	£5000	£0.00
	Total Income	£22092.46	£23578.83
Expenditure		2016-17	2017-18
	Bank charges	£101.83	£45.29
	Conferences & Publicity	£1152.62	£1307.66
	Council expenses	£3805.1	£2977.21
	Data Registration	£35.00	£35.00
	ESTA Conference 2016/17	£7123.48	£6682.00
	Promotions	£0.00	£0.00
	PESGB Projects	£8146.37	£26.88
	PT Carr Award	£0.00	£0.00
	Publications	£7413.75	£7009.60
	Public Liability Insurance	£167.54	£202.72
	Subscriptions to other organisations	£425.00	£385.00
	Refunds	£312.00	£40.00
	Transfer to Deposit account (deposit interest paid into main account until 2016/17)	£0.00	£0.00
	Total Expenditure	£28682.69	£18711.36
	Deposit Account	2016-17	2017-18
	Start	£31096.79	£26353.35
	Interest	£256.56	£131.93
	Transfer in/out	-£5000.00	£0.00
	End Balance	£26353.35	£26485.28
Total Accounts		2016-17	2017-18
	Start	£44303.88	£32970.21
	End	£32970.21	£37969.61
Total Accounts include a reserve of £10,000.00			

Additional Information

Designated Funds				
PT Carr Legacy - Interest on the invested sum of £3003.05				
21 05 2009 £3003.05 invested for 5 years, Halifax Stepped Income Reserve Fund				
		2009	Interest	Balance
2009/2010		2010	£96.10	£1,284.08
2010/2011		2011	£99.06	£1,383.14
2011/2012		2012	£102.73	£1,485.87
2012/2013	£500 awarded to J Marion		£112.92	£985.87
Account closed 17/06/13, balance and interest in current account. closing balance £3123.17				
2013/2014			£112.92	£1098.79
2014/2015			£120.12	£1218.91
2015/2016			£31.22	£1250.13
2016/2017			£29.25	£1279.38
2017/2018			£14.91	£1294.29
Total PT Carr Legacy including amount available for awards	£3003.05 + £1294.29 =		£4297.34	

ESTA Conference Account Summary			
Income		2016-17	2017-18
	Sponsorship	£6500	£6830.00
	Fees received	£7654.00	£12912.00
	ESTA (float)	£1,500.00	£1,500.00
	Leicester Uni	£300.00	£300.00
	Adverts/flyers	£0.00	£125.00
	Total income	£14494.00	£21667.00
Expenditure		2016-17	2017-18
	Accommodation & Catering	£4059.95	£6801.74
	Insurance	£177.40	£74.00
	Staff fees	£6307.19	£5439.1
	Printing, postage & sundries	£108.44	£248.95
	Per capita charge plus special invites	£0.00	£1110.00
	Transport (paid by St Andrews in 2016)	£0.00	£575.00
	Contributors accommodation & travel	£198.00	£0.00
	Fieldwork expenses (paid by St Andrews in 2016)	£0.00	£0.00
	Total expenditure	£11334.62	£14248.79
Total Conference Account 2017/18			
	Bank account starting balance 2017/18 (includes £1500 start up and balance from previous conferences)		£6185.22
	2017 Conference surplus (minus £1500 start up from main account)		£5918.21
	Future conference costs paid in 2017/18		-£449.75
	Transfer of balance to Main account (leaving £6500 in account for 2018 conference)		-£5153.68
	Account balance March 2018		£6500.00

ESTA Secretary's Report 2017/18

Meetings of ESTA Council

Three Council meetings were held during the year: on 10 November 2017, 10 March 2018 and 23 June 2018. The spring meeting was originally scheduled for 3 March but was rescheduled owing to severe weather, courtesy of 'The Beast from the East'. Unfortunately, the rescheduled meeting was inquorate, due to unavoidable last-minute circumstances. Nevertheless, some useful discussion took place and Council deferred decisions until the following meeting. Council continues to benefit from the generosity of Keele University who allow us to use their facilities in the Sustainability Hub and the School of Geography, Geology and the Environment. Council is planning to meet on 10 November 2018, 9 March 2019, and 22 June 2019. Any member interested in becoming a member of Council is invited to attend a meeting to observe business (travel expenses will be met).

ESTA Chair

As members may be aware, Jo Conway has had to step down as Chair. In accordance with Rule 20, Council have nominated Dan Boatright to fill the vacancy, subject to ratification by the membership at this AGM.

Proposed rule changes

Members who attended the 2017 Conference at Keele University will remember a presentation by Annette Thomas on ensuring that ESTA is 'Fit for the Future'. Annette has continued to lead a project to review the options open to the Association and present recommendations to Council. As a consequence of this work, Council has proposed changes to the Association's Rules for members to consider at an EGM immediately preceding this AGM. The proposals are to broaden the range of membership categories and provide the option of more flexibility in determining the date of the Annual Conference and AGM. A detailed explanation of the proposed rule changes is provided in the papers for the EGM.

Online map of Geology teaching

The interactive online map of A-level and GCSE geology teaching, originally compiled in 2014, has been updated from various sources. Many thanks to Pete Loader, Dave Evans and Chae Cruikshank for encouraging participants of Eduqas and OCR workshops to update their information. Members are encouraged to check the new map and send me corrections or updates. About half of the schools and colleges in the original compilation are confirmed as no longer teaching geology. Although this is partly an artefact of the way the data were collected in 2014, the decline in numbers is still a matter of concern. The 2018 version of the map can be seen at: [**www.tinyurl.com/UKGeoMap2018**](http://www.tinyurl.com/UKGeoMap2018)

Contact details

Members will doubtless be aware that the General Data Protection Regulation (GDPR) came into effect on 25 May 2018. This has legal implications for all organisations that hold personal data. Since ESTA has never shared members' details with third parties, you should notice little practical difference in the way we operate. However, we now rely heavily on email for communicating with members but still lack reliable addresses for nearly 30% of the membership. This often happens when people change jobs or internet provider and forget to update us. If you are not receiving email updates or ESTA News, please get in touch to confirm your contact details.

David Bailey, ESTA Secretary
July 2018
ESTA.Secretary@gmail.com

AGM - Membership Secretary's Report

Current membership – 311

	July 2016	July 2017	July 2018
Complimentary	22	22	22
Student	9	7	6
Retired	63	57	58
Ordinary / Institutional	242	196	205
Agency	18	18	20
	354	300	311

**Elouise Gill, Membership Secretary
August 2018**

ESTA Higher Education Coordinator report 2017/2018

Twitter tournaments

During September 2017, Eddie Dempsey (lecturer in structural geology at Hull University) decided to run a knockout tournament between 32 minerals on Twitter, #MinCup. Some of you will have happened across this; if not, you can read his blog about the experience at:

<https://eddiedempsey.wordpress.com/2017/10/15/the-first-mincup/>. The somewhat bewildering popularity of this 'Twittament' (>17,000 votes) has since sparked #RockCup (thanks to @Geol_Greenhead) – which concluded with Gneiss triumphant (though Granite won the 'popular vote'...). #DinoCup (also from Eddie Dempsey @tectonictweets) ran from 8th Nov to 1st Dec.

These competitions caught my imagination and seemed a great way to connect HE up with school students. Other communities have similar tournaments – March Mammal Madness has been going since 2013, for example. I found the competitions to be more than just a bit of fun, and friendly rivalry, and some great pictures! – they also provided a great opportunity to drop in titbits of teaching and, above all, to emphasise how relevant geological materials are to our everyday lives. A gratifying example of the good side of social media.

OCR Consultative Forum

I attended the OCR Consultative Forum meeting on 16th November in Cambridge. The following items were discussed, alongside the usual updates:

- Workshop/Discussion on the future of AS Level (currently in sharp decline)
- Review of the practical endorsement in science A Levels – *Neil Wade (OCR)*
- Comparative Progression Analysis investigating inter-subject comparability – *Presentation and discussion*

Geological Society/Erasmus 3DTeLC project

I attended a launch meeting for an Erasmus project led by Dr Malcolm Whitworth (Portsmouth University), entitled 3DTeLC: Bringing the 3-D world into the Classroom. This 3-year project will develop a pan-European framework for teaching onshore and offshore natural hazards using 3-D virtual worlds. Partners from Italy, France, Greece, Hungary and the UK include Fugro, BGS and the Geological Society, for which I am acting as project liaison. The virtual models developed for the project will form the basis for a number of teaching workshops alongside field training sessions, with the teaching materials to be released for free to the academic and industrial community.

Higher Education Network Annual Meeting

'The Way to Work': Graduate Employability in the Geosciences' Plymouth University

Alison Stokes expertly convened an enjoyable, thought-provoking meeting in a windy, intermittently sleety Plymouth in early January. The highlight of the conference day (Tuesday 16th) was a slick and visionary keynote by **Simon White**, digital director at Atkins, who presented contrasting views of a future digital world, both utopian and dystopian, as an incentive for designing flexible curricula capable of reacting to technological changes and equipping graduates for the world of work. He had conducted an online survey of delegates before the meeting and a brief analysis of the results indicated that geoscience educators differed from any other respondents so far, in a few aspects – notably in less liking for digital (nostalgia for analogue, or simply a closer relationship to the physical world in work that is typically 'hands on?'). Our other keynote, **James Griffiths** (Plymouth) shared his experiences over decades of teaching, highlighting the tension between academics teaching applied geoscience fit for the industrial world, and the difficulty recruiting lecturers with industry experience due to the requirements of REF.

Other speakers raised themes that recurred in several presentations:

- Tension between 'training' (e.g. specialist software) and 'teaching' (conceptual grounding)
- Educational exhaustion of undergraduates (as well as financial exhaustion!)
- Employers take taught knowledge for granted – importance relative to skills?
- Teaching emotional intelligence – traditionally not a priority for geoscientists!
- Lack of appetite for PhDs in industry
- Need to embed employability skills throughout a qualification

Successful examples from Portsmouth and Plymouth, and experience from other institutions including Edinburgh and Leicester, stressed the necessity, and effort required, to engage with industrial partners – but that as this relationship matured, it could reap rich dividends for the students.

On Wednesday, a number of more hands-on workshops on employability were held, with opportunities for delegates to share practice and ideas from their own institutions. One of the key aims for employability activities – whatever form those took – was *authenticity*. These interesting sessions brought together a number of university employability and career professionals from different institutions, a useful perspective for the geoscience educators. There was also an opportunity to try out a VR experience from Portsmouth University (Malcolm Whitworth), who are heading an Erasmus project aiming to share education via VR across a group of European universities.

In addition to the conference and workshops, staff from EDINA ran a GIS workshop on the Monday afternoon, focused on the skills needed for creating maps in QGIS open-source software.

Most of the presentations from this and past events are hosted here:
<https://www.geolsoc.org.uk/hen-resources>

Thanks to Dr James Wheeley (Birmingham University), HEN's new Social Media Secretary, the Higher Education Network now has a Twitter account: @GeolSocHEN14. Please follow and RT!

Outreach visits to schools

In my role as a STEM Ambassador, I organised and led or co-led 5 outreach visits to local Primary schools, ranging from a Year 3 'field trip' to a National Trust property focused on building materials, weathering etc. to a morning carousel of activities looking at natural hazards, including a volcano demonstration.

GeoWeek 2018

I took part – in a small way – in the inaugural GeoWeek (<http://www.bgs.ac.uk/geoweek/>), by leading a Geowalk around my local town, Buckingham. I chose a Sunday morning (13th May) to be quiet, and was surprised to see how busy the town was even then. Around 20 folk turned up, a mixture of provenance, including a couple of stray OU undergraduates; ages ranging from around 7 to around 70! Advertised on a variety of channels – Primary School newsletter, flyers in Library and Tourist Info, but I think the main one was posting on the local Facebook site. Will run this again next year! Another colleague from the Open University ran an urban geowalk in Milton Keynes shopping centre on the Tuesday evening (8th May).

'Diversity in Geoscience (DiG-UK) Launch

I attended the official launch of the UK chapter of the International Association of Geoscience Diversity (IAGD), organised by Alison Stokes (Plymouth University) alison.stokes@plymouth.ac.uk and Jacqui Houghton (University of Leeds) j.houghton@leeds.ac.uk.

This interactive day included workshops on identity and belonging, an excellent session on mental health run by Cedric John (Imperial College, London), discussions on inclusive curriculum, widening participation, mental health and employer needs. Some thought-provoking activities: for instance, we were asked to choose which one of 4 disabilities (Blindness, Deafness, Cognitive impairment, Wheelchair required) we could most easily live with, and which we absolutely could not – very interesting insight into our life priorities!

A useful step towards sharing best (and worst!) practice on all sorts of diversity issues, both specific to geoscience but also wider.

Outreach visits to schools

In my role as a STEM Ambassador, I organised and led or co-led 3 outreach visits to local Primary schools, ranging from a Year 3 'field trip' to a National Trust property focused on ecology and environment to a whole day carousel of activities on the theme 'Geology detectives'. In common with other HE institutions, outreach and public engagement – which has been something of a cottage industry for years – is gradually becoming regarded as an important activity within the University's portfolio. There may even be threats of committing resource to such endeavours in the near future...

Geological Society

The 2018 Earth Science Week (<https://www.geolsoc.org.uk/earthscienceweek>) will take place on 13 – 21st October, over 2 weekends. The theme this year is 'Earth science in our lives. The GSL is encouraging anyone holding events in this week to 'badge' them as ESW events.

**Tom Argles, H.E. Co-ordinator
August 2018**

ESTA Secondary Committee report 2017/18

Geology teacher training

The fifth 'Teaching and Learning in Geoscience Education' Summer School, supported by seven £1800 industrial bursaries, will run at Keele in August 2018. All places are filled, and one extra place has been self-funded – so eight science and geography teachers will train to teach A-level geology through the Summer School this year. Keele University has offered to host the Summer School annually for the foreseeable future, through the School of Geography, Geology and The Environment, so now further bursaries for the next three years must be sought.

ESTA Secondary Working Day – Saturday 14th April, 2018

This ran at the Sustainability Hub at Keele University - a similar day is planned for next year.

UK Conferences

- At the ASE Annual Conference at Liverpool University (3rd – 6th January 2018) ESTA ran a stand and a range of workshops. Similar representation is planned for the ASE Conference in Birmingham next year.
- ESTA ran a stand and two workshop sessions at the Geographical Association Annual Conference at the University of Sheffield (5th – 7th April 2017). ESTA will be similarly represented at next year's conference in Manchester.

International conferences

- The Geoscience Information for Teachers (GIFT) conference attracted more than 85 teachers from Europe and overseas over 8th-11th April 2018 in Vienna and included two UK teachers. A similar conference will run in Vienna in 2019 and bursaries are available for UK teachers.
- The Education and Outreach section of the Resources for Future Generations (RFG) Conference, ran successfully in Vancouver over 16th-21st June 2018.
- The International Geoscience Education Conference (GeoSciEd VIII) also ran successfully over 22nd – 27th July 2018 at Campinas, near Sao Paulo in Brazil.
- Future international conferences are planned for the Education section of the International Geological Congress (IGC) in New Delhi, India over 2nd – 8th March 2020, and GeoSciEd IX in Matsue, Japan in 2022.

Earthlearningidea

Earthlearningidea's success is continuing – 290 ideas have been published in English with more than 900 translations into 11 different languages; there have been more than 3.75 million downloads so far, currently averaging more than 45,000 per month.

Our International Year of Earth Science Educator Stories

67 stories have been published at: http://www.igeoscienced.org/?page_id=396 and following a re-launch at the RFG and GeoSciEd VIII conferences, more stories have been promised.

Earth Science Education Unit activities

These are continuing with the support of the Building Earth Science Education Resilience (BESER) initiative for one further year (2018/19), kindly hosted by Oil and Gas UK. 39 workshops ran in 2017/18 and bookings are being maintained for 2018/19

GeoWeek 2018

This ran successfully in May 2018 and plans are being developed for GeoWeek 2019.

Chris King, August 2018

Primary Co-ordinator's report 2017/18

[At time of compiling this document no report has been received]

Teaching Earth Sciences Editor's report 2017/18

Teaching Earth Sciences 43.1 was produced and distributed slightly later than usual in May. Feedback suggests that it was well received.

Editing of volume 43.2 is well underway with a view to distribution in September.

Both issues for this year are "thin" due to a lack of articles being received. This is not for the want of asking, but people who promise articles do not necessarily produce the goods and there is only so much I cajole, persuade and nag. I am very aware that I rely on the same people all the time. "Being busy" is not an excuse because these regulars are as busy as everybody else. It would be nice to receive more material from the membership.

Grateful thanks to all the authors and proof readers who spot the mistakes that I miss!

**Hazel Clark, TES Editor
August 2018**

ESTA News (EN) Editor's report 2017/18

ESTA News is produced twice a year. The copy deadlines for *ESTA News* have continued to be 15th May and 15th November.

EN 9.1, the first edition of the newsletter for 2017, was circulated to members in early June. Many thanks to Peter Williams for providing some of the images to illustrate this edition of the newsletter. *EN* 9.2 was distributed to members before Christmas 2017. Jo Conway kindly provided most of the images that illustrated this edition.

Thanks are due to David Bailey for his time in arranging the email distribution of newsletters to *ESTA* members. We still do not have email addresses for all *ESTA* members, so some members did not receive electronic copies of *ESTA News*. For the benefit of members, the newsletter is included in the members' section of the revised *ESTA* website. Earlier issues of *ESTA News* have also been placed in this section of the website.

If members have ideas for new sections that they would like to see included in *ESTA News* or sets of photographs that could be used as illustrations in *ESTA News*, then please let me know. (16 photographs on a geological topic or covering the geology of an unusual or interesting part of the world would be ideal)

I would also be interested in receiving information about new field guides & courses, items of news, details of workshops, meetings and geological events that could be mentioned in the newsletter. Please send your suggestions (or contributions) to me via: hiatus@liverpool.ac.uk

**Maggie Williams, Editor *ESTA News*
July 2018**

Projects report, 2017/18

During 2017/18 two PESGB-funded projects were completed. These projects were the 2017 ESTA Annual Course and Conference at Keele University and the PESGB-ESTA Competition to celebrate Earth Science Week 2017. A project to celebrate Earth Science Week 2018 was also developed during March 2018.

2017 ESTA Annual Course and Conference

The Association's 49th Annual Course and Conference, was held at Keele University from 29th September to 1st October 2017 in the School of Geography, Geology and the Environment at Keele. Aimed at those teaching Earth Sciences in the U.K. at all levels, this course and conference had the theme: 'Education and Geoconservation'. The Association was delighted to be able to return to Keele because this was the university where the Association of Geology Teachers (ATG), the precursor of ESTA, was founded. The event was convened by Dr Ian Stimpson (Senior Lecturer in Geophysics in the School of Geography, Geology and the Environment). Activities were organised so that many of the talks and workshops linked to education themes were held on Saturday 30th September whereas the Sunday events dealt with fieldwork and geoconservation issues.

The first day of the conference started with a field visit around the campus and gave an excellent introduction to the geology of the Staffordshire basin as well as demonstrating how engineering works (gabion baskets) and decorative artwork on the campus could be used as a teaching resource. This visit also included a visit to the quarry via the power plant for the Smart Energy Network which is a major research area on the University of Keele campus. The evening meal was held in the refectory and was a great opportunity to catch up with old friends and meet new people. This was followed by the keynote lecture by David Shilston (ESTA President 2016 – 2018) who gave a talk billed as "Unstable ground? An engineering geologist's view of hazards and risks".

On the Saturday of the conference, talks focused on the recent changes in the national curriculum and in the new GCSE & A-level specifications. Delegates were provided with updates on plate tectonics, planetary geology, engineering geology, the use of mathematics in geology, geological fieldwork and the new specified practical work for external examinations. In addition to these lectures and classroom activities, exciting outdoor demonstrations of volcanic eruption simulations took place.

The keynote speech was a group effort with Peter Kennett who described ESTA in the past, Chris King who described the importance of his predecessor, the late David Thompson, and Annette Thomas who outlined a proposed way forward for the Association. This was followed by ESTA's 'Bring and share' session.

'Bring and share' for ESTA's 50th Anniversary Conference produced a wide range of dynamic and innovative contributions. These contributions included:

- Peter Kennett and Elizabeth Devon's update on Earthlearningidea (ELI);
- Pete Loader's item entitled "Rare Earths and Skittles";
- Haydon Bailey's demonstration of the Geologists' Association's rock box;
- Chris Bedford's 'quick and dirty' rock permeability experiment;
- Julie Harrold's 'Voyages in deep time' presentation;
- Phil Murphy's demonstration on how to use high-powered laser pointers in the field;
- Jo Conway's outline of how to make use of the *stop motion* app for revision
- Paul Denton's explanation of the 'Lego seismometer';
- the late Abigail Brown's item called 'Devolve me'.

Field visits on Sunday 1st October included a visit to Salt's Level, Ecton Mine (to investigate an aspect of mining in the Peak District), a trip to Hulme Quarry in the Park Hall Country Park (to explore the Triassic Kidderminster Formation pebble beds) and a visit to the Brown End Quarry & Froghall Wharf Geoconservation Project. This last visit included a walk along a 2km section of the Churnet Valley Geotrail and which involved a discussion about the geology and geologically-related industrial archaeology of the area around Froghall Wharf. Chris King also reprised David Thompson's field excursion 'The Darwin Trail', following Charles Darwin's footsteps in North Staffordshire between c.1817 and 1843. Chris took delegates to places which have proved to be seminal in the development of ideas of evolution, origin of soil, the Tertiary geological history of the area and "Darwin's Dykes".

ESTA's Anniversary Course and Conference 2017 welcomed a record number of delegates, visitors and exhibitors. It provided delegates with opportunities to learn from 'experts' at Keele University and provided ESTA members with opportunities to share good practices and new teaching ideas with other geology teachers and to investigate new field localities that they could perhaps use to enhance their own teaching.

PESGB's sponsorship significantly reduced the cost of ESTA's Annual Course and Conference 2018 and made a huge difference to those teachers able to attend this event. After the conference, ESTA published a 'conference-themed' edition of ESTA's magazine: *Teaching Earth Sciences* **43.1**. This publication covered the exciting range of new teaching resources, ideas and articles shared at the conference and this means that PESGB's sponsorship of the event not only produced direct benefits to course delegates, but also indirect benefits to an even wider range of teachers who are ESTA members and who were unable to attend the event. Grateful thanks are due to PESGB for their continuing support of the ESTA Conference and to the University of Leicester, Geopix, Building Earth Science and the University of Keele for their additional sponsorship.

ESTA-PESGB Competitions to celebrate Earth Science Week

To celebrate Earth Science Week 2017, which ran from 7th to 15th October, PESGB and ESTA ran a national competition for UK schools: "Naming the Dinosaurs". This competition was based on the invention of the word dinosaur 175 years ago by Sir Richard Owen.

The challenge was for students to show their knowledge and understanding of this topic and to produce an A3 poster that was both eye-catching and informative and which would appeal to and be understood by students of their own age.

Entries were judged on originality, impact and the level and quality of information provided in the poster.

Congratulations go to the following winners:

- Lowri Sheryn from Torquay Grammar School for Girls - winner in Category B: Age 12-14 (Key Stage 3)
- Rosie Down from Sheffield High School – winner in Category C: Age 14-16 (GCSE)
- Aemelia Hyde from Sheffield High School – winner in Category D: Age 16-18 (A Level)

Prizes (fossils and dinosaur posters) were awarded to the competition winners and the winners' schools. The prizes of fossils were kindly provided by PESGB; BGS generously donated the posters of dinosaurs.

2018 is the GSL's Year of Resources and to celebrate Earth Science Week 2018, PESGB and ESTA are running another national competition with the title "Economic Minerals Matter". This competition is open to pupils in primary and secondary schools and entry forms are available from the ESTA website.

Maggie Williams, Projects Manager
July 2018