



Earth Science Teachers' Association  
[www.esta-uk.net](http://www.esta-uk.net)  
 Registered Charity No. 1005331

**Earth Science Teachers' Association**  
**50<sup>th</sup> Anniversary Annual Course and Conference**  
**29<sup>th</sup> September – 1<sup>st</sup> October 2017**  
**School of Geography, Geology and the Environment**  
**Keele University**



<b>Friday 29<sup>th</sup> September</b>				
2.00 onwards	<b>Registration</b> - tea and coffee (Chancellor's Building Foyer)			
2.30 – 5.30	Teacher training for the Practical Endorsement – OCR			
2.30 – 5.30	Teacher training for the Practical Endorsement – WJEC Eduqas			
3.00 – 5.00	Tours around Keele Campus - TBC			
6.00 - 7.00	Buffet supper (Chancellor's Building)			
6.50 – 7.00	Welcome by Head of School, Prof. Chris Fogwill (Westminster Lecture Theatre)			
7.00 – 7.45	Keynote presentation: Unstable ground? An engineering geologist's view of hazards and risks - David Shilston, ESTA President (Westminster Lecture Theatre)			
8.00 onwards	Drinks reception (Chancellor's Building)			
<b>Saturday 30<sup>th</sup> September</b>				
8.15 – 9.00	<b>Registration</b> - tea and coffee (Chancellor's Building Foyer)			
9.00 – 12.30	<b>Primary workshop</b> - Tracy Atkinson Minerals & Rocks   Soils & Erosion   Water   Fossils & Evolution   Summary & Freebies			
9.00 – 12.30	<b>Secondary workshops</b>			
9.00 – 10.00	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; border-right: 1px solid black; padding: 5px;"> <b>1</b> Teacher at Sea   <i>Angela Bentley</i>  <i>Aquinas College</i>   <b>(Chancellor's Building)</b> </td> <td style="width: 33%; border-right: 1px solid black; padding: 5px;"> <b>2</b> Mission to Mars   <i>Jen Brooke and Sean Doherty</i>  <i>Geobus</i>   <b>(Chancellor's Building)</b> </td> <td style="width: 33%; padding: 5px;"> <b>3</b> Plate Tectonics   <i>Ian Stimpson</i>  <i>Keele University</i>   <b>(Chancellor's Building)</b> </td> </tr> </table>	<b>1</b> Teacher at Sea  <i>Angela Bentley</i> <i>Aquinas College</i>  <b>(Chancellor's Building)</b>	<b>2</b> Mission to Mars  <i>Jen Brooke and Sean Doherty</i> <i>Geobus</i>  <b>(Chancellor's Building)</b>	<b>3</b> Plate Tectonics  <i>Ian Stimpson</i> <i>Keele University</i>  <b>(Chancellor's Building)</b>
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12.30 – 1.30	Lunch (Chancellor's Building)			
1.30 – 2.45	Keynote lecture: ESTA at 50: A successful organisation- fit for the future - Chris King and Peter Kennett, Annette Thomas (Westminster Theatre)			
2.45 – 3.15	ESTA EGM and AGM (Westminster Theatre)			
3.15 – 3.30	Tea and coffee (Chancellor's Building Foyer)			
3.30 – 5.30	Bring and Share session- Chris King (Westminster Theatre)			
7.00 – 11.00	Conference Dinner and Barn Dance (Keele Hall)			
<b>Sunday 1<sup>st</sup> October</b>				
9.00 departure	Fieldwork visits – see detailed information			



**Main Sponsor**

## Sunday 1<sup>st</sup> October

### Fieldwork visits

The fieldwork visits this year are to a variety of sites that showcase Staffordshire's diverse geoh heritage. Following one of the conferences themes of geoconservation, several of the trips will visit sites with teaching materials provided by GeoConservationUK through its Earth Science On-Site programme. There is also the opportunity to revisit the sites that influenced Charles Darwin in a reprise of David Thompson's classic field excursion from ESTA's 30<sup>th</sup> Conference in 1997.

#### Fieldwork visit 1

##### **David Thompson's Darwin Trail (half day) – Chris King**

This fieldwork visit will reprise David Thompson's field excursion following Charles Darwin's footsteps in North Staffordshire between c.1817 and 1843 and will visit 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".

There is limited amount of walking over uneven terrain so stout shoes and outdoor clothing are needed, and some roadside geology so a high-vis jacket is advised. Packed lunch will be provided.

**Departure: Holiday Inn 9.00, Keele University 9.15**

**Return: Keele 1.00, Holiday Inn 1.15, Stoke Railway Station 1.30**

#### Fieldwork visit 2

##### **Ecton Mine: Salt's Level – Peter Kennett and Steve Davies (Ecton Tutor) & Apes Tor (Ralf Halama)**

The copper and lead deposits on Ecton Hill were worked from Bronze Age times, until 1891. The visit includes a tour of Salt's Level, an adit about 300m long inside Ecton Hill. Apes Tor displays impressive examples of structural folding in Carboniferous Limestone and has associated KS4 activities through Earth Science On-Site. Assess the potential of the site as a venue for bringing your own A Level or GCSE Geology groups.

There is limited amount of walking over uneven terrain so stout shoes and outdoor clothing are needed, and some roadside geology so a high-vis jacket is advised. Packed lunch will be provided.

**Departure: Keele University 9.00, Holiday Inn 9.15,**

**Return: Stoke Railway Station 4.00, Holiday Inn 4.15, Keele University 4.30**

#### Fieldwork visit 3

##### **Hulme Quarry, Park Hall (half day) - TBC**

Hulme Quarry in Park Hall Country Park is a SSSI that exposes the Triassic Kidderminster Formation pebble beds. Through Earth Science On-Site there are activities here for students at KS2, KS3 and KS4. The nature and origin of the rocks will be discussed as well as the provenance of the pebbles.

There is limited amount of walking over uneven terrain so stout shoes and outdoor clothing are needed, and some quarry faces so a hard-hat is advised. A morning snack will be provided.

**Departure: Keele University 9.00, Holiday Inn 9.15,**

**Return: Stoke Railway Station 12.30, Holiday Inn 12.45, Keele University 1.00**

#### Fieldwork visit 4

##### **Brown End Quarry & Froghall Wharf Geoconservation (optional half day) – Ian Stimpson**

Brown End Quarry, near Waterhouses in Staffordshire is a SSSI that exposes the lower part of the Carboniferous Limestone succession. Near-vertically bedded Milldale and Hopedale Limestones are exposed with recent research delineating the Tournaisian-Visean boundary. In addition to the geology, the practical aspects of geoconservation will be discussed. The afternoon will follow a 2km section of the Churnet Valley Geotrail, discussing the geology and geologically related industrial archaeology of the area around Froghall Wharf.

There is about 2km of walking on footpaths over uneven terrain so stout shoes and outdoor clothing are advised. Packed lunch will be provided.

**Departure: Keele University 9.00, Holiday Inn 9.15,**

**Return: Stoke Railway Station 4.30, Holiday Inn 4.45, Keele University 5.00**

**If using own transport, then the Brown End Quarry visit will finish around 12:00 if you would like to make this a half-day trip.**