



**Circular 399  
December 2012**

Registered Charity No: 503617

President: Brian Jones

[www.emgs.org.uk](http://www.emgs.org.uk)

**WINTER 2013**  
**LECTURE PROGRAMME**

**Saturday, 26<sup>th</sup> January 2013 – 6.00 pm**

**Thermal and Structural Evolution of the Himalayan and Karakoram Continental Crust**

**Speaker: Mike Searle**

**Saturday, 9<sup>th</sup> February 2013 – 6.00 pm**  
**(To be followed by the Society's Annual Dinner)**

**The Age of Tsunamis**

**Speaker: David Tappin**

**Saturday, 16<sup>th</sup> March 2013 – 6.00 pm**

**Cultural and Historical Geographies of Onshore Oil Exploration in 20<sup>th</sup> Century Britain**

**Speaker: Andrew Naylor**

**Saturday, 13<sup>th</sup> April 2013 – 6.00**

**The problems of Chirotherium and the Triassic Environment**

**Speaker: Geoff Tresise, Honorary Curator Geology of the National Museums Liverpool**

**LECTURE VENUE**

Indoor meetings will take place in lecture theatre B3 of the Biology building at the University of Nottingham. If you require to use the lift to B3, please speak to the security attendant who will assist you. B3 is equipped with induction loop hearing assistance. If you are attending meetings or joining a coach at the University of Nottingham, enter from the South Entrance on University Boulevard. Cars should be parked in the car park on the bend in the road just beyond the security

point after Science Road. The entrance to the Biology building is at the right hand side of the rear of this car park.

**Saturday, 26<sup>th</sup> January 2013 – 6.00 pm**

### **Thermal and Structural Evolution of the Himalayan and Karakoram Continental Crust**

Geological mapping combined with thermobarometry, metamorphic modelling and U-Pb geochronology along the Himalayan (Indian plate) and Karakoram (Asian plate) Ranges has resulted in a better understanding of the structural and thermal evolution of continental crust in a classic continent-continent collision belt. The Himalaya shows a relatively simple evolution from early deep crustal subduction along the northern margin at UHP coesite eclogite grade through kyanite and sillimanite + muscovite, sillimanite + K-feldspar and sillimanite + cordierite grade culminating with widespread partial melting in the middle crust and generation of anatectic leucogranites. The Greater Himalayan Sequence has been extruded south during the Early Miocene (~24-15 Ma) period of Channel Flow when ~100 km of southward extrusion of a middle crust layer occurred in between major bounding shear zones, the Main Central Thrust zone with an inverted metamorphic isograd sequence along the base and the low-angle, north-dipping South Tibetan Detachment normal fault along the top. In the Nanga Parbat syntaxis very young (Plio-Pleistocene) sillimanite + cordierite grade metamorphism and anatexis may provide an insight into active thermal structure of the deep crust today. The upper, middle and lower Himalayan crust are decoupled and each show different rheology, fluid composition, seismic properties and structural evolution.

The Asian plate Karakoram terrane in North Pakistan shows a much more complex and long-lasting structural and thermal evolution. During and following collision and accretion of the Kohistan Arc and the Indian plate to the southern margin of Asia, crustal thickening along the Karakoram resulted in polyphase deformation, metamorphism and melting. Abundant Middle Jurassic and Cretaceous (170-90 Ma) Andean-type subduction-related granite intrusion is recorded as well as widespread kyanite and sillimanite grade regional metamorphism spanning at least 65 million years. The major phase of kyanite- and sillimanite- grade metamorphism in the Baltoro region peaked during Oligocene – Lower Miocene time (28-22 Ma). The main bulk of the Baltoro granite batholith comprises co-magmatic biotite monzogranites and garnet two-mica leucogranites with sheets of K-feldspar megacrystic granites. U-Pb monazite ages from the Baltoro granites range between 25-13 Ma, very similar to most of the Himalayan leucogranites along the Indian plate. The youngest granites within the Baltoro batholith are core leucogranites around the Trango Towers and Biale (~13 Ma). Although most deformation and metamorphism ended before final emplacement of the Baltoro granites, deeper level metamorphism and partial melting continued. The youngest metamorphism dated along the Karakoram is represented by the Dassu gneiss dome in the southernmost part of the Karakoram Metamorphic Complex, composed of Pliocene sillimanite – K-feldspar orthogneisses intruded by tourmaline-aquamarine gem-bearing pegmatites. Metamorphism along the Karakoram is diachronous in space and time and it is quite likely that active granulite or eclogite facies metamorphism occurs today at depth beneath the Karakoram.

**Saturday, 9<sup>th</sup> February 2013 – 6.00 pm**

### **The Age of Tsunamis**

Do we live in the 'age of tsunamis'? With the Indian Ocean event of 2004 where 220,000 people died, the 2006 Samoa tsunami and the 2010 event in Chile, it certainly seems like it. The massively destructive tsunami that struck Japan in March last year is another such event. The impact was a surprise because usually natural disasters strike the third world and Japan is

considered to be the best prepared country in the world to deal with these events. This talk presents on the different tsunami sources and then focuses on the 11<sup>th</sup> March 2011 Japan event.

The speaker has researched tsunamis for 14 years, beginning in 1998 with the devastating event in Papua New Guinea that killed 2,200 people. Since then he has worked on numerous tsunamis, including that of the 2004 Indian Ocean. He has visited Japan three times since 11<sup>th</sup> March studying the tsunami impact.

**Saturday, 16<sup>th</sup> March 2013 – 6.00 pm**

### **Cultural and Historical Geographies of Onshore Oil Exploration in 20<sup>th</sup> Century Britain**

(Details in next Circular)

### **SUBSCRIPTION RATES FOR 2012**

**Please note** the subscription rates are now as follows:

Ordinary member - £18.00

Joint member - £22.00

*If you have not yet done so, please let the Treasurer have your subscription as soon as possible. If you pay by standing order please can you check the amount which was paid from your account as a number of payments at the old rate have been received. If your subscription is one of those, please can you let the Treasurer have a cheque for the difference and ensure your standing order instruction is amended for next year.*

### **New Members**

Mr E D Rodgers, Loughborough, Leics.

### **Nottingham Geotours Programme for 2013**

5<sup>th</sup> – 11<sup>th</sup> June – The Isle of Skye

22<sup>nd</sup> – 25<sup>th</sup> September – Mid-Wales based in Aberystwyth

21<sup>st</sup> – 28<sup>th</sup> November – Lanzarote and Fuerteventura

For further information, please contact **Ian Sutton** at 30 Alford Road, West Bridgford, Nottingham NG2 6GJ. Tel. No: 0115 923 2360. E-mail: [ian.sutton035@btinternet.com](mailto:ian.sutton035@btinternet.com)

### **Society Publications**

- (1) **Leicester Building Stones Guide;**
- (2) **East Midlands Field Guide;**
- (3) **Sandstone Caves of Nottingham** (new full colour edition)

Copies available by contacting the Secretary or at Indoor Meetings.

### **Information for Other Societies**

We hold information of lectures and field meetings for other local societies such as the NSSGA, Black Country Geological Society and Leicester Lit & Phil Society. If you would like details of any of these, please contact the Secretary.

### **EMGS Website**

The publications page on the Society website ([www.emgs.org.uk](http://www.emgs.org.uk)) has been tidied up and updated. It now includes links to two archives:

One is the archive of the early Mercian Geologists where scanned copies of complete issues are being diligently prepared thanks to the hard work of David Bate. This is still being added to (with successive volumes) and will eventually reach volume 12 for 1991.

The other is the archive of papers and reports in the more recent issues. These will go onto the webpage two years after they appear in the paper issues of the Mercian. Currently only the 2009 material is online, but files will be extracted and posted, working backwards as far as 1992, and this takes time. Files for 2010 onwards are already prepared and will go online on their second birthday.

### **e-mail addresses**

To minimise postal costs and photocopying charges which amount to approximately £4.00 each year for every member who still receives their Circular by post, we would very much like to send you your Circular by e-mail. If you have not already done so, please send your e-mail address to the Circular Editor, [sue.miles@freethcartwright.co.uk](mailto:sue.miles@freethcartwright.co.uk).

**Please can you also confirm your name and address when sending your e-mail** so we can correlate these details with our membership listing.

**The next Circular will be published in January/February 2013.**

**The next Council Meeting will be held on 15<sup>th</sup> January 2013.**

**Secretary:** Mrs Janet Slatter, 100 Main Street, Long Whatton, Loughborough, Leicestershire LE12 5DG e-mail: [janet.slatter@btinternet.com](mailto:janet.slatter@btinternet.com) . tel. no. 01509 843297.

**Treasurer:** Mr Colin Bagshaw, 150 Scalpcliffe Road, Burton-on-Trent, Staffordshire DE15 9AD, e-mail: [Colin.bagshaw@yahoo.co.uk](mailto:Colin.bagshaw@yahoo.co.uk) tel. no. 01283 564520

# EAST MIDLANDS GEOLOGICAL SOCIETY

## **49<sup>th</sup> Anniversary Dinner** **9<sup>th</sup> February 2013 at 7.45 pm**

The 49<sup>th</sup> Anniversary Dinner will be held at The Helmsley, University of Nottingham, after the lecture by David Tappin. Join other members on this special occasion for a complimentary glass of wine or soft drink before the meal and a three course dinner. Cost is **£23.95** per person.

### **Starter**

Curried parsnip & apple soup, parsnip crisps;  
Duo of melon, raspberry & pomegranate dressing;  
Chicken liver parfait, red onion marmalade.

### **Main Course**

Pan Fried Chicken Breast, pearl barley ragout, mushroom sauce;  
Hake Fillet, saffron & mussel chowder;  
Butternut and Stilton Pithivier, yellow tomato sauce.

**A family style service of vegetables & baby potatoes will be placed on each table.**

### **Dessert**

Chocolate & Lime Mousse, with lemon shortbread;  
Raspberry Panacotta with winter berry sorbet;  
Selection of cheeses with biscuits, chutney and pickled onions.

***Please indicate your choice of starter, main course and dessert below.***

### **Booking form for 49<sup>th</sup> Anniversary Dinner**

Please reserve ..... places

My/our chose of three courses are as follows:

Starter: .....

Main Course:.....

Dessert: .....

Name & Tel. Nos: .....

Cheque made payable to EMGS enclosed for £

**Please send to:** Ian Sutton at 30 Alford Road, West Bridgford, Nottingham NG2 6GJ  
Tel. No: 0115 923 2360. E-mail: [ian.sutton035@btinternet.com](mailto:ian.sutton035@btinternet.com)