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Notice of Annual General Meeting

Please note that the 35th AGM of the Geological Curators' Group will be held at the Woodend Creative Workspace, Scarborough on Monday 1 December 2008 at 1600. Nominations for the posts of Chairman, Officers and two Committee Members must be made by two members of the Group and submitted in writing to Matthew A Parkes, Natural History Division, National Museum of Ireland, Merrion Street, Dublin 2, Ireland tel +353 87 122 1967 email mparkes@museum.ie **by Monday 10 November 2008**.

2009 subscriptions

Subscriptions for 2009 are due on 1 January. From December 2008, Cindy Howells, GCG Membership Secretary, will be invoicing members who do not pay by standing order for next year's subscription (rates will remain the same at £15 for subscribers based in the UK and £18 for overseas subscribers), but cheques sent to her now will be gratefully accepted and will help reduce postage costs. Please send your cheque, payable to the Geological Curators' Group to: Cindy Howells, Department of Geology, National Museum of Wales, Cardiff CF10 3NP.

New members

GCG is pleased to welcome the following new members: **Emma Louise Bernard**, Bristol; **Jorgen Langhof**, Department of Mineralogy, Swedish Museum of Natural History, Stockholm; **Rachel Jackson**, Clitheroe Castle Museum; **Esther Sharp**, Sedgwick Museum; **Robert Theodore**, Documentation Assistant, Sedgwick Museum; **Adam Smith**, Trinity College, Dublin; **Horniman Museum**.

Howard Brunton and Mick Cooper

Members will be saddened to hear of the recent deaths of two members, Howard Brunton and Mick Cooper. Howard, who had retired to Somerset, was a brachiopod researcher at the Natural History Museum and served as GCG's third Chairman from 1980-1983. He was also co-editor of GCG's *Guidelines for the curation of geological materials*. Mick Cooper was Registrar at Nottingham Museums and Galleries and a well-known and respected mineralogist and mineral photographer. He had recently published a history of British mineral dealers, *Robbing the sparry garniture*.

Musical curators

Bruce Campbell, curator of natural history at Newport Museum and Art Gallery, retired on 19 September after 35 years' service. Bruce was the last natural history curator in Wales, outside of the National Museum; **Tim Ewin**, formerly at Bristol City Museum has moved to the Natural History Museum where he is Curator of Invertebrates and Plants in the Department of Palaeontology.

Newish publications

Minerals of Britain and Ireland by A G Tindle, 2008. Harpenden: Terra Publishing, viii + 616pp. ISBN 978 1 903544 22 8, £95.00.

Minerals of Northern England by R F Symes and B Young, 2008. National Museums of Scotland/Natural History Museum, viii + 208pp. ISBN 978 1 9052067 01 9, £30.00.

Imperial nature: Joseph Hooker and the practices of Victorian science by Jim Endersby, 2009. Chicago: University of Chicago Press, 429pp. ISBN 978 0 226 20791 9.

A history of palaeontological illustration by Jane Davidson, 2008. Indiana University Press, 217pp. ISBN 978 0 253 35175 3, £24.00.

The Earth on show: fossils and the poetics of popular science, 1802-1856 by Ralph O'Connor, 2008. Chicago: Chicago University Press, 542pp. ISBN 978 0 226 61668 1.

Worlds before Adam: the reconstruction of geohistory in the age of reform by Martin J S Rudwick, 2008.Chicago: Chicago University Press, 800pp. ISBN 978 0 22673128 6.

Fossil, mineral and gem shows 2008

22-23 November Brighton Racecourse, Freshfield Road, Brighton
For further information contact Rock and Gem Ltd, PO Box 72, Maidenhead SL6 7GB tel 01628 621697 email info@rockngem.co.uk www.rockngem.co.uk
Other mineral and fossil shows coming up include:
15 November 25th Sussex Mineral Show, Clair Hall, Perrymount Road, Haywards Heath 10.00-16.00
29 November Amateur Geological Society Mineral and Fossil Bazaar, St Mary's Hall, Hendon Lane, Finchley, London N3 10.15-15.30

The Manchester Museum's Type & Figured fossils reach the digital age

In 2007, The Geologists' Association Curry Fund funded a project to provide virtual access and improved storage of the museum's most important fossils. Over a period of nine months, over 3900 fossils from the type & figured collection have been photographed and repackaged. Have a look at the collection at: www.museum.manchester.ac.uk/collection/pre-historiclife. Follow the link to 'type and figured specimens'. This project has provided unprecedented access to this spectacular and internationally important collection. Both geologists and the public can view the collection at their leisure from around the world. The repacking has helped to ensure the collection's survival for future generations.
David Gelsthorpe

PRISM Fund supports conservation and purchase of natural history collections

It has long fallen to the natural history curator to battle against the deterioration of collections and dwindling acquisition budgets.However, there is help at hand.The Fund for the Preservation of Industrial and Scientific Material (PRISM Fund) exists to support public institutions and charitable trusts looking to conserve or add to their collections.

Since 1973 the PRISM Fund has been awarding grants to help save items of importance to our scientific or industrial heritage.All fields of science and industry are eligible, including natural history, medicine, photography, engineering and geology.

The PRISM Grant Fund, managed by the Museums, Libraries and Archives Council (MLA), has a pot of £250,000 each year to support the acquisition and conservation of this type of material. PRISM can offer funding of up to 50% of the project costs, up to a maximum of £20,000.

Applicants do not have to be accredited institutions but they do need to have charitable purposes and exist for the public benefit. The grant-aided item must be kept in the public domain and cared for properly. When making decisions about which projects to fund, priority is given to rare and unique objects.

Recent projects supported by PRISM include:

Plymouth City Museums & Art Gallery were recently awarded £1057 to mount or create study-skins for some currently frozen donations including a Mute Swan, a Mink and Polecat.As well as increasing awareness of indigenous fauna in the Plymouth area, this project will also create the potential for more research into local biodiversity.

Torquay Museum have recently been awarded £5712 for the conservation of the palaeontology collection from Kent's Cavern.This essential work will secure the future of the collection; enabling researchers to use this valuable asset from the Pleistocene period for many years to come.

Sunderland Museum & Winter Gardens have been awarded £3500 for the acquisition of the John Bell Fossil Fish Collection. This collection of Permian fossil fish from Marl Slates, Durham includes many rare specimens currently not represented in the British Museums.

Oxford University of Natural History have been awarded £20,000 for the conservation of the Fluid-Preserved Vertebrate Collection. This extensive project seeks to stabilise the collection – important as a record of the history of preparation and preservation of specimens and the history of teaching science – as well as creating a new database detailing conservation treatments and where known, the original locality of the specimens.

If you are planning a project that may benefit from PRISM do not hesitate to get in touch.For further information please contact Katherine Doyle, PRISM Fund Manager, on 020 7273 1446; email: prism@mla.gov.uk. Guidance notes, application forms, and the latest annual report are available on the MLA website athttp://www.mla.gov.uk/website/aboutus/grants/PRISM_Grant_Fund
Katherine Doyle

SPNHC conference – Oklahoma City, May 2008

The 23rd annual meeting of the Society for the Preservation of Natural History Collections conference was hosted by the Sam Noble Oklahoma Museum of Natural History or SNOMNH for short!This Museum is located in the entertainingly named Norman, Oklahoma, however the entire conference was held in the Skirvin Hilton in downtown Oklahoma City some distance away.As the host for the conference the SNOMNH had been responsible for fund raising and had managed to raise tens of thousands of dollars so we had breakfast provided each day and a few sponsored lunches and there were a large number of companies presenting their products.

This year the programme consisted of one day for trips, two for the conference and one for workshops.This meant that there were a number of concurrent activities on the agenda and in particular there was a choice of visiting a number of museum stores or going on field trips.When the trip round the History of Science collections was cancelled at the last minute I was swayed by the advertising for the trip to the Wichita Mountains Wildlife Refuge.While it rained on the geology trip to the Arbuckle Mountains, we had great weather at Wichita, beautiful scenery, and fantastic encounters with bison, elk, longhorn cattle, prairie dogs.The 'mountains' themselves are the remnants of Cambrian intrusive and extrusive events, uplifted in the Pennsylvanian, and heavily eroded in the Permian to present day heights of2.5 thousand feet and they are well worth a visit.

There were around 200 delegates including a fair number of geologists along with botanists and zoologists, mainly from the USA.On the first day of the technical sessions the keynote speaker was Don Wilson from the Smithsonian who gave examples on the usefulness of studying mammal skins in collections to identify new species and eliminate erroneous ones.One example involving raccoons from three Caribbean islands helped to prove that they were all introduced species and no longer had to be on the islands' protected list while they ate all of the other island wildlife. He also introduced the web site on North American mammals www.mnh.si.edu/mna/ where one can print off guidebook style check sheets and some Google tools that I was unfamiliar with: googletrends.Type a word into the search box and it shows you where in the world and when other people were searching for that term.

After this it was into two days of lectures on topics from databases, ethics, collection moves and collaborative projects.In one talk I learnt that any item collected on National Park Service land remains their property and is only ever held on loan for them.Each individual park has individual arrangements for checking and renewing loans resulting in a paperwork nightmare for some large repositories with no solution in sight.

Another interesting talk was from staff at the California Academy of Sciences (due to open in September).This new museum has been built with natural air conditioning but the curatorial staff are very unsure about the results.At last years conference they said they would not be able to put anything on display, at this years they discussed a grading system they had come up with: lowest level meant item could be open; highest level meant item needed a sealed microclimate case.The special glass walls of the museum were still causing problems though as people were walking into them.

The NHM gave a talk about the amount of time spent helping visiting researchers versus curating.In fact the keynote speaker had complained that he had only been allowed from 10a.m. until 4p.m. at the NHM, apparently not taking into account that the zoology department alone handles 20,000 enquiries a year.A survey is currently underway (by Clare Valentine in Zoology) to try to help researchers get the most from their visits.

Another NHM talk was about the Thames whale.It was collected by the Museum primarily for use as a research specimen and thus not intended for permanent mounting and display.The sheer number of requests for viewing, loans, and research from the public, researchers and the media meant that they had to be regulated in some way.The media were required to fill in an application and were vetted – a film on strandings being allowed for example.

There were a number of geologically themed talks about collection surveys.In one Paul Mayer of the Field Museum, Chicago explained how he had been asked to bring a summary of his palaeontology collections to a meeting after only just starting in the job.After a very quick panic survey for the meeting he went back and did a more thorough survey.He used a four point grading system to draw up a poster sized wall map that pictorially showed the state of the collections.In this case it showed that he collections did have order with uncatalogued specimens appearing at the end of each geological time period.

Due to concurrent sessions I wasn't able to get to Tiffany Adrain's talk about developing a Threatened Collections Toolkit, however it should be available in an issue of Collection Forum and even if US based should make interesting reading.

The evening banquet was held at the SNOMNH where I finally got to see the new museum and some of the palaeontology displays.The museum raised enormous amounts of sponsorship money and almost every room and staircase had a plaque up announcing the sponsor's name.The palaeontology displays aren't quite finished but there are a large number of skeletons on display and the settings look good with plenty of additional information like touchable rock specimens from the relevant eras.

I went to the one day workshop on writing collection management policies run by John Simmons and Elizabeth Merritt which was very good considering the time available and was partly based on the book Things Great and Small: Collections Management Policies.I may be wrong but it seems that the American Association of Museums does not have a set of ethics like the MA does and this is something they are currently working on, but a lot can be incorporated into a museum's own policies and procedures to avoid problems.

While I can't really recommend Oklahoma City as a venue to visit this is a great conference to find out what is happening in the US and to meet plenty of suppliers and I recommend it to any museum curator to attend at least once to meet people from some of the largest natural history museums in the world.It is nearly always held in the US, however next year is to be in Leiden so look out for details on the SPNHC web site http://www.spnhc.org/

Helen Kerbey

GCG Microclimates Workshop
National Museum Wales, Cardiff
17 September 2008

Caroline Butler (NMW) hosted the day, with talks from both Bob Child and Caroline Butler both NMW, and Laura Ratcliffe from the Royal Cornwall Museum.

Bob Child began by introducing an overview of the mechanisms of decay - temperature, humidity and moisture content. Bob explained that to many people geological specimens give the impression of being stable. This is not the case, as they are in fact susceptible to many agents of decay, just like any other objects that are found in museums. He focused on environmental factors, and how these affect the choice of storage. A lack of understanding of these factors has in the past, lead to problems, both with conservation treatments and storage areas not having the right environmental controls.

The area in the country where your museum andis will determine the relative humidity (RH). So because of the climate of Wales (wet, wet and oh wet) stores are inevitably damp and thus environmental controls have to adjusted for this. High RH can be inviting to biological deterioration such as mould and bacteria's.

If your store is too dry this could also pose a huge problem as many specimens when too dry will warp, shrink and become brittle, bob likened this to a balloon when the air is taken out it shrinks down. Shale and sub fossil material are good examples of geological specimens which are vulnerable to dry environments.

One of the recommended choices for larger areas that have problems with RH is humidifiers and dehumidifiers, although monitoring your environment is essential with or without these apparatus.

Sun, an obvious source of heat, can be over looked, as can lighting, which can play a role in the deterioration of objects. We were show the original Punch puppet that had a spotlight shone directly on to it, which had caused it to deteriorate and melt resulting in this rare object looking like a small Jabba the Hutt.

People have tried to combat environmental problems in the past with consolidates and adhesives. These tended not to work as over time they can pick up dirt as a result in changes in temperature, and other changes in environment. Glass transition temperature or(T_g) is the temperature at which an amorphous solid, such as glass or a polymer, becomes brittle on cooling, or soft on heating. This means that if an object treated with a consolidant or adhesive gets heated then it will soften and pick up dirt, and then when the object cools and so does the consolidant/adhesive the dirt is trapped within.

Insects are a problem as well, for labels associated with the specimens and stuck to the specimens. Some insects like to eat the glues, some enjoy eating the ink and others feast on the paper. They can be stopped in appropriate environmental conditions. If the environmental temperature is increased by 10 degrees it can double the activity of pest insects, conversely this can be slowed by lowering the temperature by 10 degrees the insect pest activity will decline.

Caroline Butler spoke on how microclimates are used at the NMW and what materials they utilize when making microclimates. She gave some background detail on how geological specimens decay and why microclimates are needed illustrating it with practical examples of the types of materials needed.

Past methods of controlling an enclosed environment include salts in purpose built picture fames in 1936 and more recently, a new, and very expensive, anoxic case used to house the American charters of freedom.

Stewart boxes where passed round; these are used to create microclimates. The Stewart boxes are made of polypropylene and have excellent seals, and are used primarily to create microclimates with low RH. However Stewart boxes combined with aluminium tape have an even better seal.

For an even more enclosed environment, the Stewart boxes can be sealed in barrier films. The barrier films are used to create microclimates needed low permeability, this meaning that the oxygen permeability rate was low but also the moisture transmission rate would be low. The Stewart box is placed in between two sheets of barrier films, which are heat sealed at the edges, to create a self made sealed bag.

Caroline also passed around various sample of the materials used, these included the barrier films Escal™ and Moistop™. These are two reliable barriers that are used separately or together. Moistop™ was the most reliable but was white, so if you needed just to see your specimen on one side Escal™ (translucent) can be used one side and Moistop™ on the other. This gives a great microclimate and reduces the cost, as Moistop™ is cheaper than Escal™.

We were also shown how to detect any change in the microclimates with detector strips, indicating silica gel and humidity strips all of which tell you how your microclimate is doing.

Then, a range of oxygen scavengers, and how they are effectively used to create microclimates in conjunction with barrier films were explained. Ageless™ and RP-systems™ are the most commonly used oxygen scavengers. These are sealed within the microclimates to create an oxygen level of less than 0.3%. This method is used to create anoxic environments

Caroline also explained potential problems with microclimates, such as:

- Effective monitoring of your microclimate.
- Materials can sometimes be unreliable.
- Seals can be damaged
- Accessibility
- Footprint, microclimates can enlarge your collection size, as the packaging can sometimes be a lot larger than the original object.
- Cost

The following links are useful:
UK supplier: www.conservation-by-design.co.uk
Keepsafe systems: www.keepsafe.ca/
Mitsubishi Gas Company: www.mgc-a.com/
Anoxic microenvironments: a simple guide by John Burke www.keepsafe.ca/jburke.shtml

After the interesting morning talks about the theory of the conditions affecting collections and how to control the conditions with microclimates, we were given the opportunity for behind the scenes tours. Cindy Howells took us through the well kept palaeontology stores. Well organised, and easy to locate specimens quickly, the stores hold over 500,000 specimens.

Mike Lambert then showed us around the radioactive mineral stores. It is ventilated, with the fan extracting the 'radioactive air' up and away leaving through the roof. They are stored in wooden drawers and it is well documented, allowing staff and researchers to go directly to the specimens, reducing contamination time in the store.

We then saw the preparation labs and the huge X-Ray Diffraction machine. The XRD analysis is fast and linked to a computer, which can match the results of the 'phase' to records on a large database. The National Museum Wales has lots of contact with students from the University of Wales, Cardiff, regularly using the equipment for joint research projects.

After lunch we were shown how to heat seal Escal™ and Moistop™ barrier films. The heat sealers (around £500) were simple to use and because the barrier films are thick, it makes the heat sealing quite quick and easy. Heat sealing two sheets of the Escal™, created sealed bags, which could be any size you wanted.

It was safe to use, and little chance of burning yourself! Caroline Butler and Laura Ratciffe were very practical about the heat sealers, relating it to use in smaller museums. They suggested that if your museum doesn't have a heat sealer, a museum near by will probably have one, which they will not be using all the time, so it is worth sharing.

Laura Ratcliffe, Conservator at the Royal Cornwall Museum in Truro, talked about the RCMs project of repacking minerals in microclimates. This was an interesting case study from a smaller museum, which has had experience in using microclimates, on a small budget.

The mineral collection, with over 13,000 specimens, was assessed noting down the main problems which were found. The specimens which required more immediate attention were some pyrite specimens, copper specimens and the hazardous minerals; mercury and asbestos.

There were several considerations to think of before conserving any minerals; Should they be prioritised by specimen importance? Should they be prioritised by specimens most in danger of loss and damage by inaction? What is the most efficient way of getting the work done/? Do you treat all the specimens containing pyrite just in case, regardless of their stability or only the ones undergoing decay?

The decision was made to attack the specimens displaying the most signs of problems, and treat these first.

The next process was to use the most useful conservation option for them, in terms of cost and time. One option was chemical stabilisation of pyrite decay using ammonia treatment. This method turns the specimens orange and requires placing them in microclimates.The second method was creating an anoxic microclimate. This method is costly and the oxygen states in some mineral deposits can be changed. The third option was anhydrous microclimates (environments without water), which was easy to use and at a lower cost. However, this could potentially alter hydration states in specimens. Due to costs and time, this final method was chosen.

The three main materials used were; Stewart boxes (which have a good air seal), Escal™ (which creates a good barrier) and silica gel (which is cheap, widely used and known to work).

In some cases the packing method for the specimens was determined by the size and nature of the individual specimen. Some specimens required a brief dust and then placed into a microclimate. More problematic minerals required more extensive treatment, involving removal of the pyrite decay parts by scalpels and then placing into microclimates. Only a small number of specimens were disposed of which were unsalvageable. All the specimens were imaged before and after treatment.

Laura described two microclimates they used. Large specimens were sealed in Escal™ made bags with silica gel inside. Smaller pyrite specimens were stored in Stewart boxes, and these were then sealed in the purpose made Escal™ bags. Quite often, several specimens can be stored in one Stewart box, as they require the same conditions, and also saves a lot of space.

Treatment for copper was also carried out. Damaged or affected parts were not removed from the specimens, as they could potentially cause more damage to the fragile specimen. They were placed in low moisture environments; placed inside a Stewart box, with silica gel, and in some cases, an extra seal of foil tape was used around the lids.

Mercury and asbestos were also placed in microclimates. The mercury was stored in Stewart boxes, with the Escal™ sealed bags around the boxes. The asbestos was sealed in self made Escal™ bags, so the specimen could be viewed without opening the bags.

After a year of beginning the project, there has been no reoccurrence of pyrite decay in the treated specimens and the microclimates have remained stable. However some specimens not treated after the original assessment are now showing signs of pyrite decay, so work is beginning on treating these specimens.

The overall cost per specimen using Escal™, silica gel and Stewart boxes, was approximately £1 per specimen plus man time. This is a very cost efficient conservation method.

Looking back at the project, Laura finished with some helpful problems and points when carrying out conservation of mineral collections.
Find out what you need to do before you start and the extent of the work you have to do.
Don't get carried away with audits, as you will run out of time if you are on a fixed term project.
The work is repetitive, but you can save time by preparing silica gel in bulk.
There will be a lot of work to do, so keep it as simple as possible.
You will most likely come across things that will surprise you, so be flexible.
Be prepared to dispose of some specimens if they are too far-gone.

We found the training day very interesting and well organised. The background information outlined at the beginning was pitched perfectly and easy to understand and relate to our own collections. Seeing how Laura has tackled the minerals at the Royal Cornwall Museum was very inspiring, and has prompted us to assess our mineral collections and use microclimates to prevent our specimens from literally turning to dust.

Jan Freedman, Plymouth City Museum and Art Gallery
Sarah Lawrence, Cynon Valley Museum

Forthcoming GCG seminars and workshops

Check our website www.geocurator.org for updates to our seminar programme

1-2 December 2008 Woodend Creative Work Space, Scarborough
GCG Seminar, 35th AGM & Study Visit: *A new look at old collections*
Monday December 2008
10.00 Registration & coffee
10.30 Welcome & introduction *Shirley Collier, Chief Executive, Scarborough Museums Trust*
10.40 Unravelling the past (dealing with a complex problem in collections management): *David Craven, Bolton Museum*
11.10 A new passion for the past (understanding an historic collection): *Jess Shepherd, Plymouth Museum*
11.40 teenagers (using geology collections for target audiences): *David Gelsthorpe, Manchester Museum*
12.10 up Leeds' Dinosaurs (re-discovering the value of collections): *Leslie Noè, Thinktank, Birmingham*
12.40 Lunch
14.00 Old shells (new perspectives in a smaller museum) *Jon Radley, Warwickshire Museum*
14.30 Digging in the museum stores (unravelling Irish ice age faunas): *Nigel T. Monaghan, National Museum of Ireland, Dublin*
15.00 the round (re-developing historic displays at the Rotunda): *Will Watts, Scarborough Museums Trust*
15.30 and biscuits
16.00 GCG 35th Annual General Meeting
18.00 reception at Rotunda Museum, Scarborough (with opportunity to view the re-displayed galleries)
19.30(for meal if attending)

Tuesday December 2008 *Rotunda Museum, Scarborough*
10.00/coffee & visit Rotunda Museum.
Chance to buy packed lunch for field trip
11.30 up for field trip to Speeton Clay
15.30 Return to Rotunda Museum (pick up bags, change clothes etc.)
16.00Meeting ends

Please note: Clay in December will be messy (like wading in treacle!)would heartily recommend a full change of clothes and waterproofs. Boots essential. No hard hats needed. Hammers welcome (but to be used with discretion!)

Meeting fee: £15.00 per person **Field trip cost: £10.00** per person (lunches not included).

If you wish to attend, please complete the booking form on page 15 and return it to Will Watts, **c/o Scarborough Museums Trust, Woodend Creative Workspace, The Crescent, Scarborough, NORTH YORKSHIRE, YO11 2PW *email: will.watts@smtrust.uk.com* by 7 November**.

12-13 May2009 British Geological Survey, Keyworth, Nottingham
GCG Workshop: Casting geological specimens
A two-day workshop, with one day collections-based, and the other on in the field techniques.
Contact: Steve McLean, The Hancock Museum, Barras Bridge, Newcastle upon Tyne NE2 4PT tel 0191 222 6765 fax 0191 222 6753 email s.g.mclean@ncl.ac.uk

22 September 2009 Bristol University, Queen's Road, Bristol
GCG Seminar in conjunction with the Society for Vertebrate Palaeontology (SVP)
Contact: Steve McLean, The Hancock Museum, Barras Bridge, Newcastle upon Tyne NE2 4PT tel 0191 222 6765 fax 0191 222 6753 email s.g.mclean@ncl.ac.uk
October 2009 Venue to be confirmed
GCG study trip
Contact: Steve McLean, The Hancock Museum, Barras Bridge, Newcastle upon Tyne NE2 4PT tel 0191 222 6765 fax 0191 222 6753 email s.g.mclean@ncl.ac.uk

December 2009 Leeds City Museum & Art Gallery
GCG AGM and seminar: Storage, sorting & documentation: good practice & practical solutions.
Contact: Steve McLean, The Hancock Museum, Barras Bridge, Newcastle upon Tyne NE2 4PT tel 0191 222 6765 fax 0191 222 6753 email s.g.mclean@ncl.ac.uk

Other meetings

15 November 2008 National Museum of Wales, Cardiff
Geologists' Association South Wales Group: Geofest
A day of geological activities, talks and tours to mark the GA's 150th anniversary. 10.00-17.00
Contact: Steve Howe, National Museum of Wales, Cardiff CF10 3NP tel 029 20 573 363

7 December 2008 Natural History Museum, Cromwell Road, London
Gem-A, Russell Society and Mineralogical Society: Nature's treasures: minerals and gems.
A range of talks followed by an exhibition by mineral dealers. 10.00-16.00
Cost: £12.00 including lunch.
For further information and to register: www.minersoc.org/pages/meetings/nature/nature.html or contact: Kevin Murphy at Kevin@minersoc.org tel 020 8891 6600

8 April 2009 Geological Society, Burlington House, Piccadilly, London
History of Geology Group: Open meeting
Contact: Anthony Brook at anthony.brook27@btinternet.com

12-15 June 2009 Penventon Park Hotel, Redruth, Cornwall
8th International Mining History Congress
For further information: www.huss.ex.ac.uk/history/imhc/index.php or contact: Dr Peter Claughton at p.f.claughton@ex.ac.uk

11-12 July 2009 Sedgwick Museum, Cambridge
Darwin in the field: collecting, observation and experiment
This multi-disciplinary conference will focus on Charles Darwin's (1809–1882) practical work in the field and examine the geological, zoological and anthropological data, observations and experiments upon which he built his subsequent theorizing. It will take place at the Sedgwick Museum of Earth Sciences in Cambridge as part of the programme of events to mark Darwin's 200th birthday and the 150th anniversary of the publication of *On the Origin of Species*. Associated events include a major new HLF-funded exhibition and original research on Darwin's work as a geologist based on the rocks and minerals that he collected on the Voyage of the *Beagle* (1831–1836) now held in the collections of the Sedgwick.

Although the *Beagle* Expedition was Darwin's major and perhaps most widely known period of fieldwork activity, we hope this conference will explore and illuminate how and where he acquired practical skills prior to the Voyage (such as his fieldtrip to Wales with Sedgwick and his scientific education in general). The smaller projects that he subsequently undertook in later years including plant and animal breeding, barnacles and earthworms could also be examined.

We are also interested in exploring how Darwin collected and documented objects and what selection criteria he used prior to their inclusion in his theories and publications. Darwin's collections are still very much alive and subsequent scientists have utilised them for different means. Finally, we are interested in exploring how they relate to present day science.

We invite papers from historians, museologists and scientists on the following themes in Darwin's life and work: collecting practices; experimental/ identification practices in geology, palaeontology, zoology and chemistry; systems of naming and classification; work aboard the Beagle; theorizing using collected specimens; field notebooks and drawings; early scientific education and teachers in scientific practice; anthropological investigations; experiments at Down House; use of Darwin's collections and/or specimen theorizing in historical or contemporary scientific practice.

If you are interested in presenting a paper, please submit a title and an abstract of no more than 500 words to Lyall Anderson (land07@esc.cam.ac.uk).

18 November 2009 Geological Society, Burlington House, Piccadilly, London
History of Geology Group: History of military hydrogeology.

Chairman: Helen Fothergill, Keeper of Natural History, Plymouth City Museum & Art Gallery, Drake Circus, Plymouth, Devon, PL4 8AJ tel 01752 304774 fax 01752 304775 email Helen.fothergill@plymouth.gov.uk

Secretary: Matthew A Parkes, Natural History Division, National Museum of Ireland, Merrion Street, Dublin 2, Ireland tel +353 87 122 1967 email mparkes@museum.ie

Treasurer: John Nudds, School of Earth, Atmospheric and Environmental Sciences, The University of Manchester, Oxford Road, Manchester, M13 9PL tel 0161 275 7861 email: john.nudds@manchester.ac.uk