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New members

GCG is pleased to welcome the following new members: **Matt Williams**, Bath; **Don Mikulic**, Illinois State Geol Survey; **Norfolk Museums & Archaeology Service**; **Thinktank - Birmingham Science Museum**; **Cockburn Museum**, University of Edinburgh, School of Geosciences; **Philip Hadland**, Bristol City Museum.

Musical curators

Camilla Nichol, former Curator of Geology at York is now Head of Collections at Leeds Museums and Galleries; **Mike Bassett**, Keeper of Geology in the National Museum of Wales since 1977 retired in March; **Andrew Ross**, formerly of the Natural History Museum has taken up the post of Principal Curator of Invertebrate Palaeontology & Palaeobotany at National Museums Scotland.

Funding

The Royal Society is celebrating its 350th anniversary in 2010, and as part of a year–long programme of events, it is offering small grants to museums and galleries to enable them to celebrate their local "scientific heroes". The hero must be either a former or current Fellow of the Royal Society or someone who has had a significant influence on a Fellow. The maximum grant will be £2,200 and the closing date fro applications is 2nd July. www.royalsociety.org/localheroes

Newish publications

Fossil ecosystems of North America – a guide to the sites and their extraordinary biotas by John Nudds & Paul Selden, 2008. London: Manson Publishing, 288pp. ISBN 978-1-84076-088-0, £24.95

Fossil, mineral and gem shows 2008

7-8 June Kempton Park Racecourse, Sunbury, West London
14-15 June Newcastle Racecourse, High Gosforth Park, Newcastle-upon-Tyne
2-3 August Kempton Park Racecourse, Staines Road East (A308) Sunbury on Thames, West London
9-10 August Royal Welsh Showground, Builth Wells, Mid Wales
6-7 September Newton Abbot Racecourse, Newton Abbot, Devon
13-14 September Newark Showground, Winthorpe, Newark, Notts.
27-28 September Bath & West Showground, Shepton Mallet, Somerset
18-19 October Margam Park, Margam Country Park, Neath, Port Talbot
1-2 November Kempton Park Racecourse, Staines Road East (A308) Sunbury on Thames, West London
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

Have you seen these labels?

Plymouth City Museum and Art Gallery are currently undertaking a large project on a collection previously owned by Sir John St. Aubyn, the 5th Baronet (1758 to 1839).Recently we secured a grant from the Esmée Fairbairn Foundation to enable the museum's natural history department to conduct a variety of work on this collection. Currently, there is much interest in the 'missing' elements of the mineral collection and the journey to their respective resting places. After his death, Sir John St. Aubyn's collection was split by the mineral dealer Isaiah Deck (1792-1853), and although an extensive collection was arranged for the Civil Military Library at Devonport (now at Plymouth City Museum), the remaining minerals were auctioned. As part of the project, Plymouth City Museum and Art Gallery is trying to locate other specimens from Sir John's mineral collection.We hope to locate as many specimens as we can so that Sir John's collection is fully documented. Our wish is to authenticate and photograph every specimen both in the museum and in other collections so that we can create an online digital database. Above is an example of two of the oldest and most frequently occurring labels associated with St.

Aubyn's mineral specimens. If you think you may have a Sir John St. Aubyn specimen or you have any information about the history of this collection, please contact Plymouth City Museum. We understand that you may not want to participate in this project, but we would like to reassure you that we would only want to authenticate and photograph your specimen. For more information about Sir John, his collection and the labels associated with his minerals, please contact Plymouth City Museum and Art Gallery on 01752 304765 or email st.aubyn@plymouth.gov.uk. You can also visit our website http://www.plymouth.gov.uk/museumstaubyncollection.

Our logo

We have been considering updating and/or changing the logo of the GCG for some time.
Does the current logo work for you?
Should we retain the current logo?
Do you have any suggestions for new logos?
Please send your comments / ideas to helen.fothergill@plymouth.gov.uk

GCG Workshop: Geology and Archives
9 April 2008 Manchester

A brief hop from Bolton to Manchester for a day looking at how we think about and care for the archives associated with our collections. The first session was led by Elizabeth Gow, an archivist at Manchester University's John Rylands Library. The session looked at the characteristics and principles that inform archives. The attendees discussed what was meant by archives and what we manage that comes under that heading. The importance of archives was discussed, with a focus on the context they provide and their status as primary evidence.

John Hodgson, also of John Rylands, joined the group as we split into three smaller groups to consider how non-archivists can work with archives. Three areas were considered: Physical Preservation, Documentation and Access. Physical Preservation and Documentation threw up much the same lists of considerations as a discussion on other collections. One notable difference is that an archivist will, as much as possible, preserve the original physical condition rather than treating any perceived damage. Archivists also operate to principles of provenance and original order that reject imposing any new intellectual framework on collections, preserving the original organisation no matter how disordered it may seem. This would seem counterintuitive to curators raised on notions of classifications and hierarchies. Yet there are obvious advantages to considering this approach.

The discussion on access raised the ugly notion of Freedom of Information versus Data Protection. Imagine a field notebook where, along with notes on the stratigraphy of a specific locality, the writer had jotted down his private (negative) opinions of a colleague. This would constitute sensitive personal information, so be exempt from freedom of information. If access was given, and the comments were made public, you would be liable. Essentially, the message was that you need to have read everything before giving access, censoring material where necessary. Various issues relating to copyright were also discussed.

The second session was led by Lisa Jeskins of the Archives Hub (www.archiveshub.ac.uk). This focused on web access to archives resources, with a practical exercise in finding various things through the website. Rather than detailing this here, I would simply suggest you visit the website and explore for yourself.

Following lunch in the museum café (now run on an eco-friendly, 'local produce and sustainability' basis), the afternoon session provided a practical exercise to put the mornings principles into place. Provided with two mystery boxes (which turned out to contain old display labels), the group discussed how the collection should be considered, catalogued and documented.

Overall, this was a good training session and thanks go to David Gelsthorpe of Manchester Museum for arranging and hosting it, as well as to his colleagues who delivered the training. The participants agreed that it was probably more interesting in practice than it may have seemed on paper. Being forced to think about collections in a new way led most of us to re-consider certain decisions we have made in the past (a comment upon which I will elaborate no further!). However, if there is one message I would take away from the day it is this: befriend your local archivist!
David Craven, Bolton Museum

GIG/GCG conference: Exploiting Geoscience Collections
12–13 May 2008
Geological Society, Burlington House

The conference was organized jointly by the Geoscience Information Group and the Geological Curators' Group. The conferences aim was to bring together the users and custodians of geoscience collections of all types to explore in detail the nature of the material being collected, how it is selected for long-term preservation, how collections are documented using metadata (collection-level descriptions), the way in which potential users can discover the information, and the ways in which this information is exploited and reused to advance science.

Participants from all over the UK, and from as far afield as Russia, Canada, America, Finland, Belgium and Germany were welcomed to the conference by Jeremy Giles of BGS. Jeremy introduced our first speaker, the eminent Richard Fortey. Richard spoke on 'How do we value geological collections?' He went on to tell us of recent recommendations from some bodies and spokesmen suggesting that 'downsizing' geological collections might be a desirable. Richard like many others does not agree with this, the adage 'never through anything away' is still a wise precaution. He gave examples of the type specimen of the graptolite *Tetragraptus bigsbyi* thought to be lost forever, rediscovered in the NHM collections, and a type of a species of the trilobite *Atractopyge* being found in an Oxford teaching collection. Richard also spoke of the intrinsic value of rare specimens, many having been collected from localities that now no longer exist or have limited access. It is with regret that Richard told us of his missed opportunity to visit temporary exposures created by the construction of the Carmarthenshire bypass. Bone Bed material at Ludlow is now protected as part of a SSSI, having been heavily affected by 'student erosion' in the past!

Our second speaker, Brian Marker first admitted to us that he may well have contributed to the aforementioned 'student erosion' that Richard spoke of! Brian gave a talk titled 'Geological collections and planning – whit is the relevance? The planning system aims to regulate the use of land in the public interest. Many planners do not have a background of geological knowledge and therefore rely on inputs from statutory consultees, and consultants. Consultations include the wider public who also need a framework of sound information. All of these parties require reliable, relevant, easily accessible and affordable geological information. Collections of geological data organised into publicly accessible databases are, therefore, central to sound spatial planning and development decisions. It is important that these are created and maintained in readily accessible locations, but is also essential that those planners who are not geologically aware should be alerted to the relevance, value and accessibility of such information.

Our next speaker was Andrew Howard of BGS who gave a talk titled 'A new perspective on old data: making geological prior information accessible in the fieldwork environment'. He spoke of the development of portable tablet PCs for use by BGS geologists, and the uphill struggle involved replacing field note books, pencils and field slips with the new digital data capture system. The new system gives access to a host of prior information including relevant papers, borehole logs and maps as well as having hand writing recognition software. They knew they were succeeding when a geologist broke his computer screen while out in the field, but refused to resort back to a field note book and pencil.

Angela Ehling of the Federal Institute for Geosciences and Resources Berlin presented a talk titled 'Old samples – New questions'. Angela cares for a large geological collection. The collections have a history of more than 130 years, with much of the older samples collected from localities during the research of native deposits and geological mapping. Many of these localities are no longer accessible.She went on to tell us how old specimens were increasingly being used to answer new scientific questions particularly in the opening of past/new mine sites.

The final speakers before lunch were Marieta Garcia-Bajo and Jenny Walsby of BGS. They spoke on 'Exploiting geoscience collections: From paper collections to 3D models', and their efforts in digitising the 1.2 million borehole records and geological maps held and created by BGS. This has enabled them to produce a model of the thickness of superficial deposits for England, Scotland and Wales. The first GB-wide digital geological map at 1:50 000 scale was created, through digitising all maps sheets. Increasingly geologists have been using surface and 3D models of the geology to help them better understand and represent the relationships between strata. A requirement for a model of superficial thickness deposits was identified and the potential to use the scanned borehole records was recognised. Down-borehole data was not available for the whole country and capturing all information was recognised as a huge task. However databasing rockhead levels was feasible and subsequently carried out. Rockhead was combined with the extents of mapped superficial deposits to create a model of its thickness.

After lunch, Jeremy Giles of the BGS gave an informative talk on 'Managing collections for exploitation'. He began by defining his meaning of a geoscience collection: '*A group of geoscience objects, analogue and/or digital, that are assembled together, along with appropriate contextual data, for a specific purpose*.' Justifying the long-term maintenance of a collection purely on the grounds of scholarship is increasingly difficult. Geoscience collections need to justify their societal value by contributing to the development of products and services that create wealth, reduce risk, or improve the quality of life or the environment. The BGS has been developing a range of digital data products derived from information held in the digital and analogue collections it manages.

Alistair McGown (formally NHM) gave an interesting talk on using 'Geological map and memoir collections as a source of data on the quality of the rock record'. Alistair has been looking at rock availability and palaeobiodiversity in the rock record through the Phanerozoic. Research into the effect of the amount of rock available to sample on estimates of palaeobiodiversity has rapidly expanded since 2001. New publications have exploited data from a range of geological sources to quantify changes in the rock record through the Phanerozoic. By using either sampling grids or GIS tools the projected outcrop area of a particular sedimentary formation can be calculated. However, as drift and bedrock maps are often separate, then outcrop searchable for fossils may be much more limited that the bedrock map would suggest. It is suggested that rock available to collect fossils should be regarded as a serious bias that must be controlled for before biological explanations are sought for fluctuations in diversity.

Mike Howe of BGS spoke of 'The contribution of serendipity to the exploitation of geoscience collections'. Much academic research in geosciences has become increasing constrained by grantsmanship, research assessment exercises, peer-reviewed publication statistics, and the avoidance of uncertainty. But in contrast, many key discoveries in the geosciences have depended on serendipity. For example, a specimen in the collections of the BGS obtained during the 1920s from the 'shrimp-band' in the Granton Sandstones, north of Edinburgh. The original locality is probably now paved over. In the early 1980s, E.N.K. Clarkson, while examining this material, realised that a specimen of *Clydagnathus*? cf. *cavusformis* Rhodes, Austin & Druce contained an in situ "conodont apparatus" in its head region, and that this was the elusive conodont animal that had been sought by palaeontologists since the initial description of conodont elements by Pander in 1856.

Philip Stone of BGS gave an interesting talk on 'Falklands fossils – famous, forgotten and filched?'. He told us of Charles Darwin's visit to the Falklands aboard the Beagle in 1833. Most of Darwin's collection is now held by the NMH, London. Philip has also established that specimens collected by Darwin are also present (hitherto unrecognised) in other late 19th century bequests to the NHM. There is also some uncertainty over a collection presented in 1903 to the Scottish National Antarctic Expedition. These fossils now reside in the Royal Museum, Edinburgh, but their ultimate provenance is questionable since they appeared just as specimens went missing from another collection gathered en passant in 1902 by a Swedish Antarctic Expedition. A shipwreck prolonged the Swedes' absence during which their fossil collection, left stored in the Falklands, mysteriously diminished. The surviving Swedish material is now held by the Natural History Museum in Stockholm; Philip suggests perhaps the rest is in Edinburgh.

Adrian Shoney spoke to us on 'The roll of standards in sharing geological collections data through the GeoCase network (Geological Collections Access in Europe)'. Creating a successful network depends on the adoption of common standards, including taxonomic and geographic standards and technical standards such as the ABCD (Access to Biological Collection Databases) data transfer standard and the TAPIR data transfer protocol. The aim is to make the earth science collection databases of participating European institutions available on the internet. The readily accessible data can therefore be used for much different research than it may have originally been collected. For example, little did whalers know that their record of kill locations along ice sheets margins would help to show that ice sheets retreated by as much as 2° between the 1950's – 70's.

After a short break for tea and coffee, we were treated to a talk on the 'Collections Management at the Geological Survey of Canada, Earth Sciences Sector, Natural Resources Canada' by Jean Dougherty of the GSC. The Geological Survey of Canada (GSC) has begun a process of renewal of the way in which it handles samples and associated metadata. The major operational tool, central to the implementation of a national collections management strategy, is a common national database and system for managing sample information, the Sample Management System (SMS). The SMS has a dual function: an operational system for tracking information about samples; and a transactional system tracking movement of samples through the various steps from acquisition through analysis to publication.

The final talk of the day was by Leonid Kolbantsev of Russian Geological Research Institute (VSEGEI), St Petersburg, Russia on 'System of storage of geological collections in Russia'. The size of the collections are quite astounding, more than 21 million specimens, slides, ore slides, powders, etc. are kept in 77 scientific and industrial geological organizations, and more than 3 million metres of cores are kept in 114 storehouses across Russia. Since 2002, work has been undertaken to create a database of the collections based on MSAccess software linked to ArcGIS.

The following day, the first talk of the day was presented by Tom Steinberg on 'Opening up – how to expose geoscience information to the mashup generation'. He told us more and more people are using and re-using datasets that were previously only of use to scientists with supercomputers. As they do so, the way the information is stored and shared is becoming increasingly critical. Tom is responsible for web sites like 'Theyworkfoyou.com' and 'PlanningAlerts.com'. 'Theyworkforyou' is a site where you can find information on your local MP, the biggest users of the site are MP's themselves. This shows you that if a site is good enough, it can be used by experts and amateurs alike, this is readily transferable to the geosciences. It is also important for data to be accessible, and not hidden behind logins or passwords. The more accessible the data, the more likely it is to be used.

The second talk was presented by Richard Hughes of BGS on 'Economic and wider benefits of the British Geological Survey's geospatial information data-set'. The BGS produces a range of national geospatial datasets licensed by a wide range of users for purposes ranging from local planning to insurance premium For example; 'GeoSure' is one of the BGS's most widely used datasets. It provides information on whether the geological conditions at a specific location are likely to give rise to ground instability and possible subsidence.

The next talk was 'GNOSIS: Generalized Natural Sciences Online Spatial Information System', a collaborative project of the Belgian Federal Scientific Institutes. Its mission is to make the data collections and archives of the participating institutes (zoology, geology, mineralogy and meteorology) accessible to scientists and the general public by the use of a Common Web Portal and GIS Web Services.

After coffee, Hazel McGoff of the University of Reading spoke on 'Geoscience collections for non-geoscientists: An on-line teaching and reference resource', as well as the cataloguing and curation of the specimens. Specimens are currently used in undergraduate and postgraduate teaching and by continuing education classes, local schools and other groups such as the Reading Geological Society. Most student and staff users of the collections are non-geologists but include archaeologists, geographers and biologists, so in order to maximise the use of the collections for teaching and research any on-line information must take these groups into consideration. The aim was to establish a truly interactive teaching and reference resource enabling viewers to search for specimens using a range of criteria.

Next, Giles Miller of NHM who presented a talk on 'Collections on the web – what is the impact on access?'. Giles gave examples of five searchable micropalaeontological collection web sites on the NHM web server (the Aberystwyth Collection of Foraminifera and Ostracoda, British Petroleum Micropalaeontological Collection, Conodont Collection, Duxbury Dinoflagellate Collection and Ostracod Collection). Giles found relative increases in loan requests and enquiries after collections were made available online, but delivering collections web information did not deliver an unmanageable numbers of visitors. The profile of collections can be raised and relevant visitors encouraged. Staffing also has an effect on access – collections are more used when you have staff in charge or working on them.

David Soller of the U.S. Geological Survey gave a talk on 'Standards Development and the U.S. National Geologic Map Database (NGMDB)'. Its goal has been to help users find the information they need to address a variety of societal and research applications. Society, businesses, and private citizens are not faced with simple, one-dimensional issues; in order for geologic information to be used, it must be presented in a readily comprehensible form that can be integrated with other types of information. Geological surveys produce individual maps, reports, and datasets in a wide variety of formats and layouts, each containing specialized scientific terminology. This geologic information must, to some extent, be standardized.

After lunch, there was first a short slide show of specimens from the Russian Geological Research Institute (VSEGEI), St Petersburg.. From polished agates to ores, specimens were cleverly depicted each with an interpretive picture, from Madonna and Child, to winter trees, to blackbirds in a nest. It worked very well.

The first speaker of the afternoon was Steve Donegan speaking on 'Data and services at the NEODC (NERC Earth Observation Data Centre). The NEODC) is the NERC designated data centre responsible for Earth Observation data.

Datasets produced and used within NERC and the wider UK EO community are archived, catalogued and made available to registered users. Services are available for any bona fide research application, but some are restricted to authorised users only (e.g. NERC funded). Datasets include satellite data, airborne data and NEXTMap Britain digital elevation data.

Chris Johnson's talk was titled 'Bags of sand and dirt – exploiting the British Geological Survey's environmental samples and database'. Chris told us of the sediment, soil, and water samples held by BGS, a valuable asset that required collating in a systematic and secure manner.The corporate BGS Geochemical Database contains some half-a-million samples and eight million analyte determinations. It is an under-used environmental resource that contains BGS geochemical data gathered over a period of nearly 40 years. Chris also told us of a time collecting samples in Africa. The morning's carefully collected, individually packed samples were left in a gully for collection later in the day. On returned, there was just a heap of sand as all the plastic bags had been stolen!

Mark Dean gave a talk titled 'Discriminating faunal assemblages and their palaeoecology based on museum collections: the Carboniferous Hurlet and Index limestones of western Scotland' (or Muddy Waters to Sandy Shore for short). Mark went on to tell us Carboniferous macrofossils from the Scottish Midland Valley, stored at BGS Edinburgh, often represent the sole remaining source of palaeontological data from the region. Explorative numerical analyses has been undertaken on part of this collection to attempt to discriminate faunal assemblages and their palaeoenvironments and trophic structures in the Hurlet and Index limestones. These analyses compare favourably with published qualitative assessments of the relationship between lithofacies and shelf palaeoenvironment and thus demonstrate that old collections can still be used in modern palaeoecological investigations.

Andy Kingdom of BGS spoke on Identifying 'Golden Spike Boreholes' for the National Borehole Information Capture Project. The 1.2 million borehole records from across the UK landmass held by the BGS are a unique resource for geoscience research and surveying. Identifying those boreholes which are of value as tie-points for modelling has thus far been reliant on the experience of BGS's experts on UK geology and stratigraphy. With many of these geologists approaching retirement there is an imperative to capture their accumulated knowledge before this expertise leaves the organisation. A 'golden spike' borehole best describes the geology of a particular area of the UK, almost 5000 boreholes have been chosen so far. Key to the projects success will be the ability to match metadata derived from one dataset to other datatypes as it may act as a quality constraint on other types of data for the same borehole. This will enhance the exploitation of these records by maximising their value. This will allow geologists to make a rapid assessment of the quality of all the various datasets held for a particular borehole and so more rapidly choose those boreholes of greatest value and stratigraphic importance.

After our last break for coffee we listened to Keith Westhead talk on 'Improving online ordering of records scans – BGS GeoRecords'. BGS have traditionally provided paper copies for requests for data each year.But in 2007, however, the BGS introduced the new online service 'GeoRecords' alongside its existing online shops. GeoRecords enables users to search, using a web GIS application, the index of borehole records held in the NGDC and order them online. Subscription packages are planned for regular users of the site.

Nancy Stamm of the U.S. Geological Survey told us about 'The U.S. Geologic Names Lexicon (GEOLEX)'. The Lexicon contains ~16 000 geologic units, and provides original and revised definitions, type localities, geologic ages, geographic extent, variations in geologic name usage, and publication synopses. For a century, the U.S. Geologic Names Committee (GNC) has assisted geologists in their efforts to define and clarify the nation's stratigraphy (e.g. variation in nomenclature of identical rock units on different sides of State boundaries). Committee activities have been recorded in certain formal publications, but there also remains relatively intact a valuable collection of unpublished notes which are used on a regular basis to maintain GEOLEX. USGC are scanning these notes, to make them accessible to the stratigrapher, and as a backup to the paper notes.

The final talk of the conference went to John Howcroft who told us about 'Archiving digital 3D modelled geological data: the BGS approach'. He went on to tell us how three-dimensional geological modelling packages are becoming increasingly used as a tool for the purposes of geological interpretation, and as a result it is also becoming increasingly important to ensure that the resulting digital models are appropriately archived and documented. As part of the Digital Geoscience Spatial Model (DGSM) project: two systems were developed to facilitate the archiving of 3D modelled geological data. The aim of this being to ensure that the data is archived with appropriate metadata to secure its long-term preservation and also to allow other modellers to make appropriate use of these models. Geological Large Object Store (GLOS) has been developed in order to hold modelled data in its native

software format. Where as Geological Spatial Framework (GSF) holds individual modelled stratigraphic surfaces which have been exported from a model as software independent xyz point data.

To conclude, there was a final discussion and wrap-up of the two day event. Speakers were thanked for their contribution, and special thanks were given to speakers/attendees who had travelled to the conference from overseas. A very interesting and informative selection of talks organised by the Geoscience Information Group and GCG.sun shone for the whole two days as well!
Andrew Haycock, Department of Geology, National Museum of Wales

Forthcoming GCG seminars and workshops

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

17 September 2008 National Museum of Wales (note change of venue)
GCG Workshop: Microclimates for your collections

A practical guide to dealing with your sensitive pyrites, delicate bones and fragile fossils in an individual tailor-made way, led by Caroline Buttler, geological conservator, National Museum of Wales.

10.00 Registration
10.30 Caroline Buttler: Introductions & housekeeping
10.40 Bob Child: *The interrelationship between temperature, humidity, moisture content and size and shape*
11.00 Caroline Buttler: Why create microclimates and what are *anoxic* micro-climates?
12.00 Lunch
13.00 Practical session: How to create and maintain microclimates.
Case studies of practical solutions with Laura Ratcliffe, conservator (Royal Cornwall Museum); examples of microclimates in use, including examples in stores with Cindy Howells, collection manager: palaeontology (NMW)
15.30 Tea & Discussion: Sharing experience & ideas: what's the most practical & appropriate for your sensitive specimens?
16.00 Finish
Workshop registration fee: £10

Tea & coffee will be provided. Lunch can be bought on the day from the museum café. Spaces are very limited due to the space of the laboratory so book early to avoid disappointment. If demand is high we will run a second workshop as near to the original date as practicable.

For further details & to book a place, or to offer a further case-study presentation, please contact Helen Fothergill at Plymouth City Museum & Art Gallery, Drake Circus, Plymouth, PL4 8AJ tel: 01752 304765 or email: helen.fothergill@plymouth.gov.uk

1-2 December 2008 University of Portsmouth
GCG Seminar and 35th AGM: A new look at old fossils

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