

**INTERNATIONAL GEOSCIENCE EDUCATION
ORGANISATION NEWSLETTER
1/2004**

IMPORTANT UPDATE

**The deadline for abstracts has been extended to Jan 28. For more information please visit the web site at <http://www.32igc.org>
Please note that a new symposium G-08-02 *Geoscience Education for sustainable development of natural resources* is being co-hosted by IGEO**

Change of e-mail contact for Newsletter articles

Bronte Nicholls

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Please remove my previous e-mail (bronte.nicholls@saugov.sa.gov.au) from your address book - mail will not be forwarded to me from this address.

**THE 32nd International Geological Congress
Florence, 21 to 28 August 2004.
Call for papers**

Dear IGEO members,

We are happy to inform you that the organizing committee of the 32nd IGC (to be held in Florence Italy between 21-28, August, 2004) agreed to include three sessions suggested by the Council of IGEO:

- G-08.05 Promoting geoscience education worldwide - at school level
- G-08.06 Promoting geoscience education worldwide - in colleges and universities
- G-08.07 Promoting geosciences through public outreach and communication

About the sessions

The sessions will include oral presentation and posters. The review process will give a priority to research-based oral presentations, but no such limitation will apply for the posters.

The oral presentations will be 15 minute duration (including time for questions). Since the time for oral presentations is very short, presenters should consider supplementing their presentation with a poster for a more in-depth discussion.

About the abstracts

Abstracts might include a large variety of topics such as curriculum development, professional development, cognitive domains of learning earth science, the outdoor learning environment, the computer learning environment, the laboratory learning environment, the interdisciplinary nature of earth sciences, the implementation of the earth systems approach, Application of pedagogies to geoscience, the history of geosciences and its educational implications, etc.

Abstract submission

All abstracts (oral or poster presentations) must be submitted electronically. In order to submit please enter the Congress web site at <http://www.32igc.org> and then click on "REGISTRATION FORMS". After receiving your username and password enter the submission form and choose the appropriate session.

Each presenter can submit only one abstract for volunteered oral presentations, but there are no restrictions for invited oral presentations. Of course, a person who is not the presenter may be co-author of more than one abstract. There are no limitations on the number of posters submitted.

The deadline of abstract submission is January 28, 2004.

Only the presenters, who do not have internet access, can submit their abstract on a paper form. Paper forms for the 32nd IGC can be obtained from the Scientific Secretariat: Phone/Fax: +39 055 2382146, casaitalia@geo.unifi.it.

Review process

The abstract review processes will take place from January 11 to February 29, 2004. Following the completion of the review, the electronic system will inform each presenter of acceptance, session allocation, and mode of presentation of his/her abstracts.

Registration

Presenters of accepted abstracts must meet the payment deadline for Congress registration fees of March 31, 2004. In order to register to the Congress please enter the Congress Website as mentioned above.

Session Number: G-08.05

"Promoting geosciences worldwide – at school level - IGEO".

The importance of geoscience education in the school curriculum cannot be over-stated. The effective communication of geoscience knowledge and understanding in the classroom, the laboratory and the field is critical to both maintaining the position of geoscience in the curriculum and in maintaining the interest of students. This session will include a large variety of topics such as curriculum development, professional development, cognitive domains of learning earth science, the outdoor learning environment, the computer learning environment, the laboratory learning environment, the interdisciplinary nature of earth sciences, the implementation of the earth systems

approach, Application of pedagogies to geoscience, the history of geosciences and its educational implications, etc.

Chair persons:

Nir Orion (Weizmann Institute of Science, Israel) ntorion@wisemail.weizmann.ac.il

Luis Marques (University of Aveiro, Portugal) (lmarques@dte.ua.pt)

Session Number: G-08.06

"Promoting geosciences worldwide – at colleges and universities - IGEO".

At the same time as there is a worldwide trend towards reduction of opportunities for geoscience studies in post-secondary institutions there is an increasing interest in the adoption of an Earth Systems approach. This session will give the opportunity for researchers and practitioners to present their research and ideas relating to these trends. Topics related to classroom, laboratory and field-based teaching as well as other innovative approaches to curriculum, pedagogy etc are encouraged.

Chair persons:

Ian Clark (University of South Australia) ian.clark@unisa.edu.au

Helen King (Manager: LTSN-GEES, Plymouth, UK) H.King@plymouth.ac.uk

Session Number: G-08.07

"Promoting geosciences through public outreach and communication - IGEO".

Although Geosciences play a pivotal role in the well being of people (exploration and extraction of resources, conservation of environment, mitigation of natural hazards, urban and land-use planning), it does not rank high in the eyes of the society. As a result, policy makers and bureaucrats make wrong decisions, brilliant minds do not pursue geosciences as a career and Geosciences does not even find a proper place in school curriculum. Hence, promoting geosciences and educating the common man, decision-makers and administrators and enthusing young children and attracting them to Geosciences are crucial at this point of time. If you have ideas or if you have carried out activities in this direction and want to share them with geoscientists from other parts of the world, please submit abstracts to the Symposium "Promoting geosciences through public outreach and communication - IGEO". We would be happy to meet you in Florence and to hear about your latest research.

Chair persons:

Ludwig Stroink (GEOTECHNOLOGIEN Coordination Office; Potsdam; D)

stroink@gfz-potsdam.de

R Shankar (Mangalore University, Mangalagangothri, India) rshankar_1@yahoo.com

Session number: G-08-02 Geoscience Education for sustainable development of natural resources

Please submit your abstract online before January 28, 2004 at the following web address: <http://www.32igc.org>

COUNTRY NEWS

From the UK

Manchester hosts ESTA Conference

The Earth Science Teachers' Association conference was held in Manchester this year, with the usual mix of updating lectures, practical workshops, keynote speeches, exhibitions, meetings and field excursions. More than 100 people attended and the feedback was universally excellent – a very welcome boost and networking opportunity for geology teachers, many of whom are the only geologist in their own schools. The 'outreach' sessions to local elementary and high school teachers were equally successful.

Next year's ESTA conference is being held in Edinburgh, Scotland, hosted by the Scottish Earth Science Education Forum (SESEF) from Friday 17th September to Sunday 19th September and all are welcome.

ESEF (E & W) has a permanent home – and a Development Officer

The Earth Science Education Forum (England and Wales) has a new home, at the Institution of Materials, Minerals and Mining in Carlton Terrace, overlooking The Mall that leads to Buckingham Palace in London. The Forum brings together representatives of organisations interested in geoscience education to share information, to develop new initiatives to fill any gaps and to lobby the Government for geoscience education. The current membership comprises, Association of UK Regionally Important Geological and Geomorphological Sites, UKRIGS; Association for Science Education, ASE; Committee of Heads of University Geoscience Departments, CHUGD; British Geological Survey, BGS; Earth Science Education Unit, ESEU; Earth Science Teachers' Association, ESTA; Gemmology Association, Gem A; Geography Association, GA (Geog A); Geological Curators' Group, GCG; Geologists' Association, GA (Geol A); Geological Society, Geol. Soc; Institute of Materials, Minerals and Mining, IoM³; Learning and Teaching Support Network – Subject Centre for Geography, Earth and Environmental Sciences, LTSN-GEES; Royal Geographical Society, RGS; Royal Meteorological Society, RMS and Royal Society of Chemistry, RSC. The forum has also appointed a part-time Development Officer, Cally Oldershaw, who can be contacted at the Carlton House address.

'Teaching the big ideas of science in an Earth context'

The Earth Science Education Unit at Keele (eseu@keele.ac.uk) recently won a bid to prepare workshops to help teachers of biology, chemistry and physics to teach the big ideas of their subject through an Earth context. At a writing-workshop, six workshops were prepared, two in each subject, one aimed at teachers of 11 – 14 year olds and one aimed at 11 – 16 year old teachers. These will be trialled in schools in the New Year, with the long term plan of running them through the network of Regional Science Learning Centres that is being set up across England. The objective is to enhance the teaching of biology, chemistry and physics through the relevance, interest and Earthiness that an Earth focus can bring.

JESEI Website Update

The Joint Earth Science Education Initiative website (www.jesei.org) has recently been updated and contains more than 40 activities to help teachers of biology, chemistry and physics to teach Earth science in more interesting, interactive, practical and dynamic ways. This has been well received in the UK, with many hits per week. The website has now been pressed onto CD ROM and these will be given away free to interested science teachers, particularly those at schools visited by the Earth Science Education Unit facilitators.

Programme for ASE 2004, Reading University

Earth Science Theme Day, Thursday 8th January

Summary

9.30 – 11.00	KS3 Earth Science Workshop <i>Changing materials: rocks, weathering, and erosion – Earth science curriculum materials for 11- 14 year olds</i> Mike Smith, American Geological Institute Animal and Microbial Science (AMS) – Lab G11		
Tea/coffee			
11.30 – 12.30	Joint Earth Science Education Initiative <i>Earth science activities for chemists, physicists and biologists</i> Chris King and RSC, IoB, IoP representatives Animal and Microbial Science (AMS) – Room 135	11.30 – 1.00	Booked INSET Course - ESTA Primary (£35). <i>Sorting minerals: identifying rocks (KS2)</i> Niki Whitburn and Gill Odolphie Animal and Microbial Science (AMS) – Lab G11
Lunch			
2.00 - 3.30	ESTA Secondary Workshop – presented by the Earth Science Education Unit <i>The dynamic rock cycle (KS3)</i> Peter Kennett and Philippa Towler Animal and Microbial Science (AMS) – Lab G9	2.00 - 3.30	ESTA Primary Workshop <i>Investigating soils and eroding rivers (KS2)</i> Niki Whitburn Animal and Microbial Science (AMS) – Lab G11
Tea/coffee			
4.00 - 5.00	ESTA/UKOOA Distinguished Speaker Lecture – <i>Monitoring the heart beat of volcanoes</i> Jurgen Neuberg, Department of Earth Sciences, Leeds University Animal and Microbial Science (AMS) – Room 135		

KS3 Earth Science Workshop

Time: 9.30 – 11.00

Presenter: Mike Smith, the American Geological Institute (AGI)

Title: Changing materials: rocks, weathering, and erosion
 Earth science curriculum materials for 11- 14 year olds

Synopsis: The American Geological Institute has prepared a wealth of Earth science curriculum materials for 11- 14 year olds in the 'It's about time' series. The colourful, engaging resources contain a wide

range of Earth science teaching activities for you to try. Come along to give a new dimension to your Earth science teaching.

Requirements: Laboratory

Joint Earth Science Education Initiative

Time: 11.30 – 12.30
Presenters: Representatives of the RSC, IoP, IoB and ESTA
Title: Earth science activities for chemists, physicists and biologists
Downloadable activities from website/free CD ROM
Synopsis: Enhance your Earth science teaching through the materials specially written for the Joint Earth Science Education Initiative (JESEI) website by the Royal Society of Chemistry, the Institute of Physics and the Institute of Biology. The website is available on line at www.jesei.org but also on the free CD for you to take away. The activities have already revolutionised the Earth science teaching of many teachers – come and find out how they can do the same for you.
Requirements: Lecture theatre with LCD projector

Booked INSET Course – ESTA Primary

Time: 11.30 – 1.00
Presenters: Niki Whitburn and Gill Odolphie (ESTA)
Title: ESTA Primary Course: Sorting minerals/identifying rocks (KS2)
Try these sorting/identifying activities for yourself
Synopsis: Try sorting minerals and devising and discussing the criteria that can be used most effectively. Decide how such an exercise can best be adapted for class use. Then use the ESTA kit of 15 rocks to work through rock identification exercises at different levels. Devise, demonstrate and test rock porosity and make your own well. Take away your own rock kit and the teaching pack to go with it and view other ESTA primary resources available for sale.
Requirements: Laboratory with running water

ESTA Primary Workshop

Time: 2.00 - 3.30
Presenters: Niki Whitburn (ESTA)
Title: Investigating soils and eroding rivers (KS2)
Try out these practical approaches yourself
Synopsis: Observe and record differences in colour, texture and composition of samples of different soils and investigate differences in porosity/permeability [QCA Unit 3d – Rocks and soils]. See how erosion by running water can be demonstrated with sand and gravel on a DIY stream table. Natural processes can be observed and speeded up to show erosion, transport and deposition of sediment. Children can be asked to predict where erosion and flooding are likely to occur – and then their predictions can be tested.
Requirements: Laboratory with running water

ESTA Secondary Workshop – presented by the Earth Science Education Unit

Time: 2.00 – 3.30
Presenters: Peter Kennett and Philippa Towler (ESEU)

Title: The dynamic rock cycle (KS3)
A hands on practical workshop

Synopsis: Most of the Earth science content of the National Science Curriculum at KS3 is best organised through the rock cycle model. The Dynamic Rock Cycle interactive workshop presents a range of practical and investigative activities that examine rock forming processes in the context of the rock cycle. Come and try them out for yourself and find out how a good understanding of these processes can be built on some simple lab. activities.

Requirements: Laboratory with running water

ESTA/UKOOA Distinguished Speaker

Time: 4.00 – 5.00

Presenter: Jurgen Neuberg, Department of Earth Sciences, Leeds University

Title: Monitoring the heart beat of volcanoes
Applying science to survive eruptions

Synopsis: For several years scientists in the Montserrat Volcano Observatory have listened to subtle noises normally only 'audible ' through very sensitive seismic instruments to monitor the internal state of the volcano. This talk will provide an overview of modern techniques used to monitor an active volcano. Through sophisticated computer modelling revolutionary progress has been made in the last 5 years to understand the generation of seismic waves in and around the conduit. Furthermore, seismic signals are nowadays jointly interpreted with gas measurements and ground deformation which is a very important step in any attempt to forecast volcanic eruptions.

Requirements: Lecture theatre for up to 100

Chris King.

From South Africa

CALL FOR EXPRESSIONS OF INTEREST
THE FORMATION OF A GEOSCIENCES EDUCATORS
ASSOCIATION OF SOUTH AFRICA

When: 12-16 July 2004

Where: Geoscience Africa 2004, University of the Witwatersrand, Johannesburg

The field of Geosciences Education in South Africa is undergoing a period of rapid change:

- At school level the Geosciences has, in addition to Human and Social Sciences or Geography, become incorporated into the Natural Sciences.
- Practicing Science teachers will need in-service training to teach this new topic and student teachers will require pre-service training in how to teach the geosciences as part of the Natural Sciences.

- Education at all levels is changing to an Outcomes Based Education format and must comply with SAQA requirements.
- Higher education organizations are merging.
- Disciplines like Environmental Geosciences are becoming more important.
- Many qualified Geoscientists are having to find employment outside of large corporate companies as consultants.

It is for these reasons that we would like to propose the formation of a Geosciences Educators association that will bring primary, secondary and tertiary Geosciences teachers to discuss the changing face of the discipline as well as the best methods of teaching Geosciences at different levels.

If you are interested in becoming a member of a Geosciences Educators Association or contributing in any way. Please contact the following:

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INVITATION TO ATTEND OR MAKE A PRESENTATION AT THE GEOLOGY

EDUCATION SYMPOSIUM OF THE GEOSCIENCE AFRICA CONFERENCE.

You are invited to make a presentation at the Geology Education symposium of the Geoscience Africa Conference. This geology education symposium will be particularly historic as it will mark the formation of the South African Association of Geosciences Educators (see attached document). The one day symposium will be followed by a three day workshop on "How best can fieldwork be used in Geosciences Education?" In addition, we are hoping to have a number of international specialists in Geosciences Education sharing their experience with us.

You are, therefore invited to attend the symposium or to make a presentation on one of two themes. "The possible role that an organization for Geoscience Educators" could play, "Success stories in Geosciences Education" and "How best can fieldwork be used in Geosciences Education?"

The Geoscience Africa conference will be a particularly prestigious occasion as it will form part of the Centenary Celebrations of the Geology Department at the University of the Witwatersrand and will incorporate the annual meeting of the **Geological Society of**

South Africa, and the biennial meetings of the **Palaeontological Society of South Africa**, and the **South African Institute of Engineering Geologists**.

If you would like to make a presentation please submit your abstract before the 31st of March 2004 to bpipal@geosciences.wits.ac.za. For further information on the conference visit the website <http://www.wits.ac.za/geoscienceafrica>.

Yours sincerely

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Please send conference dates or information you would like to share with your Geoscience colleagues to:

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