

INQUA

QUATERNARY PERSPECTIVES



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XVIII International Congress

Bern Switzerland 20-27 July 2011

Update from Christian Schlüchter
schluechter@geo.unibe.ch on behalf of the Organising Committee.

The Congress itself is hosted by the University of Bern represented by its Rector and an Honorary Committee is chaired by our Minister for Environmental and Energy Affairs. He will be, most likely, the President of the Swiss Confederation in 2011.

Already some time ago an official invitation to attend the Congress has been sent to the Presidents of all National Committees with an invitation to submit proposals for Symposia and scientific sessions.

The overall structure of the Congress stands as well as the venue. It is the small convention and exhibition centre in Bern, in easy reach by public transport (tram) from the city centre (within less than 10 minutes) and by train and bus from the surrounding area. It is also a nice walk from there back to the hotels in the city.

Structure of the congress

- July 20: Pre-Congress excursions end in Bern
- July 20: Registration opens in the afternoon, Icebreaker Party
- July 21–23: Regular session days
- July 24: Mid-congress excursions
- July 25–27: Regular session days
- July 25: Congress Dinner
- July 28: Departure of Post-congress excursions

Structure of a regular session day

- Morning: Regular sessions in parallel (8 lecture rooms)
- Afternoon: Plenary session with invited speaker, followed by regular sessions again in parallel
- Evening: Business meetings - room reservations strictly on request only (mostly in city hotels)

Poster sessions

We propose to have two poster exhibit sessions only: (A) July 21–23, (B) July 25–27. This will allow maximum poster visibility in the coffee break area.

Also, extra large poster walls are available in the hall of the plenary sessions. However, they need to be requested (no extra costs).

Registration

Accompanying persons are expected to register if they wish to receive any services (e.g. lunches, etc). We shall

be offering a nice program for registration of accompanying persons.

Early Bird Registration is CHF 750 and is applicable until 31st December 2010.

The registration fee is inclusive of six lunches, morning and afternoon tea/coffee/juice, abstract submission, abstracts on a stick or cd (no printed volume of abstracts), welcome ice-breaker, closing function and congress dinner.

Scientific program

A number of interesting symposia has already been proposed, with the working titles:

- Advances in Quaternary dating methods
- Sedimentology of glacial deposits (2x),
- The LGM in Greenland
- Geo-engineering
- Near-surface geophysical prospecting
- Long continental records,
- Valley over-deepening
- Ice core records
- PAGES symposia

Regular sessions will include:

- Vegetation response to climate change
- Alpine glaciers in the Holocene
- The 8.2 a event,
- Paleosoils
- The most extensive Quaternary glaciation
- Long pollen records
- Human impacted soils
- Alpine permafrost
- Long instrumental records
- North-south correlations
- High resolution records from caves
- The Quaternary in the tropics
- Quaternary resources
- Early man and human migrations

NB. There is still time to propose other sessions and symposia.

Excursions

At least four long excursions are prepared to cover the Alps and their distant Foreland to the North and to the South, both as pre- and post-congress trips. In addition there will be a number of one- to three-day excursions out of Bern.

Mid-Congress excursions all start and end in Bern. They cover all possible topics where our colleagues are working

(archeology, glaciology, botany, natural hazards, lake research). We are planning a total of 40 participants per excursion. These one-day excursions are not included in the registration fee.

A science visit to the research station at Jungfrauoch "Top of Europe" will be available every day at special financial conditions for registered participants.

We are very much looking forward to have you in Bern and we send you a cordial welcome!

The Congress website <http://www.inqua2011.ch/> will be updated in two-week steps, starting in January, so please check regularly for forthcoming details, including important deadlines, etc.

Or contact Christian Schlüchter schluachter@geo.unibe.ch at any time for more details.



Shackleton Medal

We are delighted to announce that the second Sir Nicholas Shackleton Medal has been awarded to Zenobia Jacobs of the University of Wollongong, Australia.

Zenobia Jacobs, a South African by birth, is a Senior Research Fellow at the University of Wollongong in Australia. Since graduating from the University of Wales at Aberystwyth in 2004 she has made significant methodological advances in single-grain optically stimulated luminescence (OSL) dating, and applied her results to a range of topics. These include understanding the role of ecological change in the lives of our earliest ancestors in Africa and the effect of humans on the native biota of newly colonised lands, such as megafaunal extinctions in Australia. She publishes in main-stream popular science media as well as prestigious scientific journals.

Zenobia will be invited to present a lecture on her work at the next International Congress in Bern.



From ICSU Newsletter 7(2)

Earth System Visioning Process

Earth system visioning is a three-step process spearheaded by ICSU in cooperation with the International Social Science Council (ISSC). The first step involved an online consultation that asked: What is the most important research question in Earth system research that needs answering in the next decade? Why? The proposed research priorities formed the background for a workshop held in September involving senior researchers, early-career scientists, science-policy experts and funders. The workshop resulted in the draft document 'Grand Challenges in Global Sustainability: A Systems Approach to Research Priorities for the Decade' that is going out to the global community through an [online consultation](#) (21 December 2009–21 February 2010). The goal is to produce a widely shared vision of the scientific priorities for global sustainability research in the coming decade. The

second step in the visioning process will begin on 22 June 2010, with an open forum in Paris to discuss the institutional structures that will facilitate the new Earth system research strategy.

See <http://www.icsu.org/index.php> for more details about ICSU activities and to access the newsletter.



In Memoriam

Algirdas Juozapas Gaigalas (1933–2009)

Doctor Habilitus Algirdas Juozapas Gaigalas, an eminent Lithuanian scientist and public figure, long-term Professor of Vilnius University, died on June 4 after a serious illness. He was one of the best modern Quaternary sedimentologists, a skilled field geologist who with his penetrating eye and mind investigated the composition and structures of clastic deposits and interpreted them within a wide context. Based on the results of his original research, Prof. Gaigalas laid the foundations for the theory of formation of litho–sedimentation cycles of Lithuanian Pleistocene glacial deposits. This theory lied at the basis of his doctoral dissertation (1977). Gaigalas published many important scientific works, which influenced the development of Quaternary studies. His participation at conferences and geological expeditions, where he often announced critical ideas, motivated many young geologists to vow to Quaternary studies.

Algirdas Gaigalas was born on February 27, 1933, in Gaižunai village of Pakruojis District. After his geological studies at the Vilnius University (1952–1957), he was engaged in scientific research work at the Institute of Geology and Geography and Geographical Department of Lithuanian Academy of Sciences and at the Lithuanian Institute of Geology. Since 1978 till his death, Gaigalas was a Professor at the Department of Geology and Mineralogy of Vilnius University.

Professor Gaigalas was a recognized scientist and public man, a member of the International Union for Quaternary Research (INQUA, 1999), a member of the Commission on the History of Geological Sciences (INHIGEO, 2006), a foreign member of the Russian Academy of Natural Sciences (1998), President of the Lithuanian Society of Naturalists (1995), and a member of the Lithuanian Geological Society, Lithuanian Geographical Society and Polish Geological Society, chief editor of THOMSON ISI Master List journal "Geologija" (Vilnius), an expert of the Lithuanian Science and Studies Foundation and International Association INTAS, a member of editorial boards of the Minor Lithuanian Encyclopaedia, international journal "Geochronometria" and "Mokslas ir gyvenimas" (*Science and life*), a patron of the topics about nature discussed in the publications of publishing house "Versmes", and a tutor and scientific supervisor of the famous Vaclovas Intas' stone museum in Mosedis (Skudodas District).

At the Vilnius University, Professor Gaigalas lectured on the Quaternary geology of East Baltic States, and Geomorphology and Quaternary geology, conducted the training field practice for students, and participated in training bachelors, masters, and doctors and habilitated doctors of geology.



Photo: Algirdas Juozapas Gaigalas. Family archive, 2007.

Prof. Gaigalas' scientific works are devoted to Quaternary deposits in Lithuania and some other countries (Poland, Belarus, Russia, Karelia, and Yakut). He developed a petrographic method for moraine investigations and methods for glaciosedimentary research and determined the glaciosedimentation cycles of Lithuanian Pleistocene and lithostratigraphic attributes of moraine structures. Gaigalas was one of the first to study the Baltic Sea bottom moraines and buried palaeovalleys; he described the typical boulders found on the sea bottom. In attempt to solve the complicated problems related with stratigraphic classification of Quaternary, Professor did his best to introduce the modern lithological, geochemical, palaeobotanical, palaeomagnetic Quaternary research methods and the newest absolute dating methods (thermoluminescence, optically stimulated luminescence, electronic rotation resonance, radioactive carbon and oxygen stable isotope shifts).

Together with his colleagues Valerija Cepulyte, Petras Vaitiekunas, Vytautas Vonsavicius, and Ona Kondratiene, Professor has developed and continually revised the stratigraphic scheme of Quaternary deposits, which could serve as a scientific basis to Late Pleistocene geochronology. Professor Gaigalas was a universal researcher of Quaternary. He achieved much in the fields of Quaternary stratigraphy and palaeogeography, Quaternary research history and archaeology, geological heritage and nature preservation. He investigated the most interesting natural boulder fields of the country and put efforts to legalize them as national protected reserves (Šaukliai, Kulaliai, Igariai, and Erlėnai) and described many valuable landscape objects (boulders and outcrops) contributing to announcing them natural monuments. Gaigalas reported his research results at international geological congresses and conferences held in: Russia (1969, 1978, 1982, and 1984), Canada (1987), Sweden (1988), USA (1989), Belgium (1993), Netherlands (1993), Germany (1995 and 2000), France (1995 and 1997), China (1996), South Africa (1999), and Brazil (2000).

The life and activities of Professor A. J. Gaigalas were unflinchingly supported by his family – wife and son. He devoted the noble ideas of his life to science and enlight-

enment. His activity was outstanding. We will strongly miss him.

Professor Gaigalas' selected bibliography in the history of geological sciences

- Ignacy Domeyko's contribution to geological knowledge of Lithuania. *Polskie Towarzystwo Mineralogiczne, Prace Specjalne, Z. 21, 2002, Kraków, 9-14.*
- Émigré's fate and studies in Paris (1832-1838), return to motherland. In *Ignacy Domeyko for Lithuania, France, Chile, Vilnius, 2002, 43-55, 73-77.*
- French stage of the geological way of Ignacy Domeyko. In *General problems of Belarus, Lithuania and Poland, Minsk, National Academy of Belarus, 2002, 49-60. [Belarus.]*
- Emigration, geological studies in Paris and beginning of work. In A. Grigelis (ed.), *Ignacy Domeyko 1802-1889. His life, works and contribution to science, Proceedings of the International Scientific Conference, Vilnius, Lithuania, 2002, 127-142.*
- Geology at the Stefan Batory University (1919-1939). In *Geology in Vilnius University, Vilnius, 2003, 43-70.*
- A description of geological collections of the old Vilnius University based on the analysis of Ignacy Jakowicki's catalogue. *Geologija, 2004, 1-14.*
- Pioneers of research of Fennoscandian erratic boulders in Baltic countries. Abstracts of XXII Baltic conference on the history of science, Vilnius, 2006, 23–24.
- Development of ideas and peculiarities of Quaternary research in the Baltic States. Abstracts of papers, INHIGEO conference History of Quaternary geology and geomorphology, 28–29 July 2006, Vilnius, 100–102.
- Klaipėda-Mosedis. Stop 4. Vaclovas Intas National stones museum. Field trip Guide book, INHIGEO conference History of Quaternary geology and geomorphology, 30 July–4 August 2006, Vilnius, 63–66.
- Lietuvos gamtos draugijų visuomeninė veikla. *Mokslas ir gyvenimas, 2006, No. 11, 3–5.* [‘Public activities of Lithuanian nature societies’].
- Pasaulio geologijos mokslu istorikai Vilniuje. *Mokslas ir gyvenimas, 2006, No. 9, 46–47.* [‘The world historians of geological sciences in Vilnius’].
- Mineralinių žaliavų tyrinėtojas. *Mokslas ir gyvenimas, 2006, No. 4, 15.* [‘Researcher of mineral resources’].
- Graniczny M., and Satkunas J., Pioneers of modern glaciomorphology in Lithuania and Poland. Abstracts of papers, INHIGEO conference History of Quaternary geology and geomorphology, 28–29 July 2006, Vilnius, 33–36.
- Geologija’ (Geology), *Universal Lithuanian Encyclopaedia, vol. XII, Mokslas ir enciklopedijų leidybos institutas, Vilnius, 2007, 652–655.* [Lith.].
- Kvartero geologija (Quaternary geology), *Universal Lithuanian Encyclopaedia, vol. XI, Mokslas ir enciklopedijų leidybos institutas, Vilnius, 2007, 368–369.* [Lith.].
- Geological sciences. *Lithuanian Encyclopaedia, Vol. I, Vilnius, 2008, 648-652.* [Lith.].
- Quaternary research in the Baltic countries. In *History of Quaternary geology and geomorphology, Geological Society of London, Special Publication 301, 2008, London, 129-140.*
- Graniczny, M., Satkunas, J., Urban, H., ‘Ceslovas Pakuckas (Czesław Pachucki): pioneer of modern glaciomorphology in Lithuania and Poland. In *History of Quaternary geology and geomorphology, Geological Society of London, Special Publication 301, 2008, London, 141-147.*

Professor Gaigalas also recently published over 65 biographies on Lithuanian scientists in *the Universal Lithuanian Encyclopaedia*, vol. IX, X, addendum to I-X vols, Vilnius, 2006; vol. XI, Vilnius, 2007; vol. XIII-XIV, Vilnius, 2008. [Lith.]

Valentinas Baltrunas, Algimantas Grigelis. (Reprinted from *Baltica*, courtesy of Editor-in-Chief Algimantas Grigelis)



Stop Press: Tim Partridge

We regret to announce that Tim Partridge died suddenly at the beginning of December, much to the shock and sadness of his many friends and colleagues in South Africa and around the world. Tim served INQUA for many years as both a Vice President and as the Chairman of the Organising Committee of the 1999 International Congress in Durban. He was also a founding member of the Southern African Society for Quaternary Research and had recently been elected, for the second time, to serve as its President. We shall publish a fuller appreciation of Tim and his contribution to Quaternary science in the next issue of *Quaternary Perspectives*.

INQUA Commissions

Coastal and Marine Processes (CMP)

Commission President Cecile Baeteman cecile.baeteman@naturalsciences.be reports that the Commission has recently held two successful conferences for which the following were posters. Further information from Dr Baeteman.

Deltares
Enabling Better Life

INQUA
International Union for Quaternary Research

IGCP
International Geoscience Programme

EGMOND AAN ZEE 2009
A joint INQUA - IGCP 495 Meeting

International Conference and Field Trips on
Decadal to Millennium-Scale Land-Ocean Interactions in the Geological Record: Blueprints for the 21st century?

INQUA Commission on Coastal and Marine Processes
IGCP Project 495 - Quaternary Land-Ocean Interactions: Driving Mechanisms and Coastal Responses

Egmond aan Zee (Netherlands)
June 21 - 24, 2009

ABSTRACTS

International Geoscience Programme (IGCP) Project 495
with the
International Union for Quaternary Research (INQUA)
Commission on Coastal and Marine Processes

Annual Conference and Field Meeting
Myrtle Beach South Carolina USA
Technical Sessions October 25-27, 2009
Field Excursion October 28-31, 2009

**Quaternary Land-Ocean Interactions:
Driving Mechanisms and Coastal Responses**

Hosted by:
The Center for Marine and Wetland Studies
Coastal Carolina University
US Geological Survey
South Carolina Sea Grant Consortium
October 25-31, 2009



INQUA Projects

N.B. The deadline for grant applications is 20th January 2010.

Further details and application forms are available on the website <http://www.inqua.tcd.ie>. Please remember to consult one of the Commission Presidents before you complete your application, which cannot be considered unless it is submitted through a Commission.



0802: Joint INQUA/ NERC (QUEST)-funded Dust and Climate/DIRTMAP Working Groups.

Leader: Barbara A Maher, University of Lancaster, UK. b.maher@lancs.ac.uk. <http://www.lancs.ac.uk/staff/maherb/>

INQUA DIRTMAP3 Working Group: http://www.lec.lancs.ac.uk/research/LU_themes/inqua_working_group.php

The Working Group has produced some notable outputs, which really do reflect the synergistic impact of bringing together this uniquely diverse range of specialties in the area of dust and climate change — spanning modelling, present day observation and remote sensing, palaeo-dust records, and biogeochemistry.

Specific outputs from the Working Group this year include:

- § a review paper for publication by *Earth Science Reviews*, 'Global connections between aeolian dust, climate and ocean biogeochemistry at the present day and at the last glacial maximum', by Maher (Lancaster), Prospero (Miami), Mackie (Otago), Gaiero (Cordoba), Hesse (Macquarie) and Balkanski (LSCE), with a provisional online publication date of February 2010;
- § the newly updated DIRTMAP3 dust flux database; data are held in an Access database named DIRTMAP-DataV3.mdb, and can be accessed by the front end program in DIRTMAPProgV3.mdb, please see: http://www.lec.lancs.ac.uk/research/LU_themes/inqua_working_group.php.
- § an invited presentation at the Fall AGU 2008 on 'Dust and climate: the DIRTMAP '2' database' (by Maher and the DIRTMAP Working Group);
- § a meeting report item in EOS (21-04-09), Mineral Dust and Climate, Working Group on Dust and Climate Joint INQUA/QUEST Workshop; Villefranche-sur-Mer, France, 19–22 October 2008;
- § and, before that, this report in CLIVAR Exchanges: Durant, A., Harrison, S.P., Maher, B.A. & Balkanski, Y. (2008). The QUEST working group on dust and the future of dust-cycle research. CLIVAR Exchanges.

Upcoming, at the Fall meeting of the AGU, Jo Bullard (Loughborough) will be presenting a paper on 'Preferential dust sources in global aerosol models: a new classification based on geomorphology' (Bullard and the INQUA/QUEST Working Group), within session EP18: "Aeolian Surface Processes: Atmospheric Mineral Dust". Jo has also written a 'Commentary' item for the journal, *Earth Surface Processes and Landforms*, entitled, 'Bridging the gap between field data and global models: current strategies in aeolian research', which has been accepted for publication, expected in the New Year. An additional

AGU session, Loess 2.0: Milestones and Recent Advances in the Study of Loess, Dust, and Other Aeolian Sediment Archives, is also being held at the Fall AGU 2009, co-convened by Helen Roberts (Aberystwyth),

It is planned to run the Working Group's 3rd international workshop in 2010, date and venue to be confirmed; in addition, for 2011, Ina Tegen (Liebniz) and Barbara Maher have submitted an application to the European Science Foundation to support a conference on 'Dust and climate, past, present and future' (provisional date July 2011).

0803: MOCA (Meltwater Ocean Cryosphere Atmosphere response)

Leader: Lev Tarasov, Memorial University of Newfoundland, Canada. Email: lev@mun.ca

MOCA had a very busy spring with three splinter workshops at the 2009 EGU and CANQUA meetings.

At EGU, a joint workshop with the PMIP (Paleo-Model Intercomparison Project) transient working group discussed interim initial and boundary conditions for transient modeling experiments along with identification of key model output for comparison against observations. It was agreed to focus initially on the Heinrich event 1 to Younger Dryas interval as well as the 8.2 ka event. The later was identified as the first target experiment for the transient group.

A second splinter workshop at EGU examined the latest calibrated modeling results for Eurasia. A lesson learnt is that time limitations and conflicts from competing sessions makes the EGU a lousy place to hold extended splinter workshops. Results from current calibrated modeling under MOCA will form part of the PMIP boundary conditions for the latest round of international modeling experiments to be submitted to the next IPCC report.

The 2 session MOCA workshop at CANQUA (Canadian Quaternary Association) considered refinements for North American deglacial ice margin chronologies. This was a highly productive workshop that strongly benefited from the presence of Art Dyke. Furthermore, a revised treatment of the uncertainties in the margin chronology was consensed to (based on C14 dating uncertainties). As well, outer uncertainties for Arctic ice margins were extended to beyond the continental shelf during the early deglacial interval. These refinements have been implemented in the current round of calibrated modeling.

Members of MOCA also organized a session on deglaciation of North American and Eurasian ice sheets for the fall 2009 AGU meeting.

Finally, a joint APEX (Arctic Paleoclimate and Extremes)/MOCA workshop on Arctic paleoclimate

proxies and chronologies (marine, lacustrine, and terrestrial (including landforms)) is being organized for May 26th to May 30, 2010 in Iceland. This will be a major opportunity to bring the glacial geology/geomorphology and paleo-oceanography/paleoclimatology communities together.

For further details on any of the above refer to the MOCA website <http://www.physics.mun.ca/~lev/MOCA.html> or send a query to lev@mun.ca.

0904: Paleo-climatic/sea level changes and anthropogenic responses and adaptations during the Quaternary in the West African sub region: evidences from marine and terrestrial sources.

Leader: Izuchukwu Mike Akaegbobi. University of Ibadan, Nigeria. izumike20022002@yahoo.com.

The first international WAQUA workshop took place in Ibadan, Nigeria from 26th to 30th October 2009. The workshop was organized by members of the Workshop Organizing Committee drawn from the University of Ibadan, Ibadan and Nnamdi Azikiwe University, Awka, Nigeria and was co-sponsored by INQUA, PAGES, PAST and HalaalTech Quarrying and Construction Company Limited, Ibadan, Nigeria. The WAQUA workshop participants were ceremonially welcomed by the Vice Chancellor of the University of Ibadan who was ably represented by the Dean of the Faculty of Science Prof. Kolawale O. Adebowale after which the workshop was officially declared open by Margaret Avery, INQUA Vice President responsible for African Affairs and member of the sponsoring INQUA Commission for Humans and the Biosphere (HABCOM). Other dignitaries present at the opening ceremony included Ms Andrea Leenen, CEO of the Palaeontological Scientific Trust (PAST), Prof. A. Azubuike Elueze, President of the Nigerian Mining and Geosciences Society, and Prof. emeritus David U.U. Okali, Immediate Past President of the Nigerian Academy of Science representing the Academy. PAGES was represented by Dr Mohammed Umer, a member of the Scientific Steering Committee.

This inaugural international workshop was attended by over 50 participants from different countries in West, East and South Africa, and was aimed at enhancing the growth of Quaternary palaeosciences and to generate interest among younger scientists in research works that focus on the palaeontology, archaeology, past environments, coastal erosion, and past climatic and sea level changes in the West African sub-region. The workshop sought among other things to promote regional collaborative research and intensify exchange of scientific information on Quaternary palaeosciences. Technical sessions were held under the theme with the aim of properly understanding how information stored in geological archives could be useful in reconstructing environmental and climatic variability during the past two million years for future climate modeling and forecasting. In addition the workshop focused partly on human adaptations as a consequence of climatic variations and coastal erosion during the Late Quaternary.

The workshop created an enabling environment for younger and senior mentoring research scientists from across the West African sub-region to discuss diverse Quaternary palaeoscience research areas. This was primarily aimed at building bridges across borders of

academic disciplines and to encourage research partnership and promote capacity building and training in Quaternary palaeosciences, archaeology and palaeontology.

The workshop started with presentations relating to the importance of studying Africa's multiple archives and proxies for palaeoclimatic studies covering at least the last 2000 yrs in order to determine the climate change and human impact in Africa. The keynote address by Mohammed Umer pointed out that the fragmentation of West African rainforest and of major water bodies in the Holocene are all associated with the causes of climate change, and cited the impact of modern civilization on climate change. The importance of Africa's palaeoclimatic studies was considered in terms of its potential in the areas of tropical heat engine, monsoon system, human origins, adaptation and vulnerability. The paper outlined the challenges of palaeoclimatic studies in Africa to include short term palaeoclimate data, scarce documents on groundwater. It was noted that the African continent provided the first set of evidence for monsoon variability in response to climate change mechanisms and that the 19 – 23 kyr precession cycle could be a forcing element for climate change in Africa.

The keynote paper by Julius Lejju, who represented EAQUA, dealt with Holocene environmental history and human interaction based on data derived from sedimentary records and archaeological findings around the Great Lake Regions of Central Africa. This paper reported a significant change in terms of environmental, socio-cultural and climate and political structures from Holocene to Present. Other papers focused on the interdependencies of climate change and groundwater budget across the West African Sahel Zone as well as their impact and consequences on coastal erosion due to sea level rise. The presentations also stressed the meteorological phenomena affecting port and harbour operations in the coastal areas of West Africa, which include adverse weather, ocean waves, storm surges and coastal flooding. Some of the papers presented cited anthropogenic activities and ecologically unfriendly human activities such as gas flaring, tree cutting, vehicular movement as some of the causes of climate change. The papers discussed climate change as clearly evidenced in recent temperature rise and change in rainfall pattern and amount. Impacts associated with climate change including drought, precipitation/air temperature change and poor agricultural output for food security were highlighted. Also the physical effects of this change associated with lowlands, wetlands, estuaries, erosions development and saltwater intrusion were discussed. One of the plenary papers attempted to describe the history of climate change during the Quaternary in West Africa citing examples for illustration in Benin Republic as well as to analyze the recent extreme annual rainfall variations in Benin Republic.

Presentations on the first day concluded with an invited paper presented by Achuo Enow of the ICSU Regional Office for Africa (ROA) on the challenges of climate changes and its impact on ecosystems and Human Wellbeing from ICSU-ROA perspective. Enow presented background information on current and fundable ICSU-ROA projects in Africa and encouraged members to partner with ICSU-ROA in realizing the fulfilment of the project objectives. The first day ended with a cocktail party sponsored by the Vice Chancellor of the University of Ibadan at his lodge.

The second day focused on climatic variability and human health, and the consequences of ecosystem changes, livelihood and sustainability of human development during the Holocene across West Africa. The keynote presentation by Regina Folorunsho was on climate change and sea level rise adaptation options along the coastal areas. The paper pointed out that sea level changes were associated with the menace of subsidence and coastal erosions in our coastal environment. The impacts of sea level changes in the form of saltwater intrusion and large scale inundation were also highlighted. Adjustment in natural and human system response to actual or expected climatic stimuli or their effects which moderate harm and exploit beneficial opportunities were recommended as adaptation measure to sea level changes. These were evaluated under retreat, accommodation and protection. It was pointed out that adaptation to sea level changes in developing countries is often handicapped by gaps in knowledge and emphasis was made on the need for co-ordination of information from different government establishment, development of natural hazard database and training for effective management and implementation of adaptation measures.

The session discussed issues related to integrated study combining marine and terrestrial proxies to correlate changes in oceanic, continental and atmospheric conditions. It was observed that historical records show that the Sahel region has experienced several shifts to more arid climate during the last glacial period. The Sahel drought was likely a climatic response to changes in Atlantic Ocean circulation and associated sea surface conditions. Regarding Late Quaternary climate variations in subtropical northern Africa, several multiproxy reconstructions illustrate the complex relationship between Sahel ecosystems and climate throughout periods of aridification, long-term climatic and environmental change in the Sahel. On glacial to interglacial time scales, western Sahel humidity has been reconstructed through grain size and bulk elemental data. It shows that tropical Africa fluctuated between dry, windy and cold glacial periods and wet and warm interglacial associated with weakening and strengthening of the Africa monsoon circulation. The data indicate that abrupt onsets of arid conditions in the West African Sahel co-occur with cold North Atlantic sea surface temperatures during Heinrich surge events and have been explained by a southward migration of the ITCZ and its associated tropical rain belt by few degrees latitude over west Africa documenting the occurrence of multi-millennial droughts in the Sahel during the past 57,000 years. The data presented show that abrupt onsets of arid conditions in the West African Sahel were linked to cold North Atlantic sea surface temperatures during times of reduced meridian overturning circulation associated with Heinrich Stadials. Climate modeling suggests that this drying is induced by a southward shift of the West African monsoon trough in conjunction with an intensification and southward expansion of the midtropospheric African Easterly Jet.

An invited report titled "INQUA and the development of Quaternary science in Africa" was presented by Margaret Avery, who informed participants about the activities of INQUA. The session ended with an invited report from Ms Andrea Leenen of PAST entitled "From South-Africa to pan-African: how PAST supports palaeoscience research and education on the continent".

Manuscripts of full papers presented during the workshop will be submitted for publication as a special volume in *Quaternary International*.

0906: The Quaternary of southern Spain: a bridge between Africa and the Alpine domain.

Leader: Mauro Coltorti, Universty of Siena, Italy, coltorti@unisi.it

The annual INQUA Subcommission on European Quaternary Stratigraphy (SEQS) meeting was held from September 28th to October 3rd, 2009, in Orce, Spain. Further information from the Leader.

0911: Decoding the Last Interglacial in the Western Mediterranean.

Leader: Teresa Bardaji (Spain) teresa.bardaji@uah.es.
Secretary: Javier Lario (Spain)

Project 0911 started in summer 2009 as a project of the CMP Working Group on Long Term Sea Level Changes, and the first activities are directed towards developing an appropriated framework for a data base.

The project was thought to be a kind of compilation of all the data related to sea level and climate during the last Interglacial in Western Mediterranean, paying special attention to its decline.

This basin can be envisaged as a macro-lab for understanding sea level behaviour and climatic connections during the last interglacial, integrating it within the North Atlantic framework. The climatic deterioration recorded at the end of OIS5e in North Atlantic, Northern Europe and North Iberia sites must be also recorded in this basin, by means of sea level or climatic signals. In this sense, terrestrial data within the Iberian Peninsula or most Western Europe became a precious key to analyze the climate evolution and Atlantic influence in this basin.

Many studies have been carried out on sea level changes during the Last Interglacial along Western Mediterranean coasts. Sedimentological, geomorphological, palaeontological, and geochronological studies have been carried out at many sites in western Mediterranean countries, and different interpretations have arisen. There is no general agreement about the number of highstands, succession of sedimentary facies or even the number of highstands containing warm fauna.

This project is therefore aimed to make a compilation of the existing data, trying to decode the signals recorded in OIS5e deposits from western Mediterranean countries, and paying special attention to those that allow the reconstruction of sea-level and climatic changes. Much research has been done in north Atlantic and northern Europe, regarding to the record of the last glacial inception (122–110 ka) but very little has been done in the Mediterranean countries, and especially on western Mediterranean coasts. The end of OIS5e must be recorded in our littorals by means of different proxies such as palaeontological content, environmental changes marked by different sedimentary facies or sea level drop evidenced by the geomorphological disposition of marine terraces.

Specific objectives

1. To develop an on-line library, where all the, not so easily available, papers such as classical, pre-www, maps, national journals or congresses references can be obtained.
2. To complete a sea level database for the Last Interglacial (OIS5e) in western Mediterranean coun-

tries, including dating (method and material), field-based identified highstands, sedimentary facies, faunal content, relative height, tectonic setting, etc. In order to make easy and useful this database, this will be editable in a Wiki-like site, where all the involved researchers can introduce the data from their own countries and sections. A type section for OIS5e should be selected for each country-region. This section must be the most complete and representative of the environmental changes occurred during the last Interglacial. The comparison among these different type sections will help to develop a regional model for the Last Interglacial sea-level and climatic changes in Western Mediterranean. The geographical situation of the proposed sections will be included in a Google Earth environment in order to facilitate their location.

3. To gather together all the information available in western Mediterranean countries about present oceanographic parameters such as seasonal wind stress and direction, wave regimen, tide gauges (if any), sea surface temperature and salinity, etc., in order to get a physical model for this basin that can help to understand the last interglacial differences.
4. As the final scope it will be intended to identify the response of Western Mediterranean coasts to the climatic deterioration experienced in North Atlantic influence area during the declining of OIS5e.

Activities of the Project will be available in a web site still under construction. Please contact Teresa Bardaji teresa.bardaji@uah.es if you are interested in participating in the Project.



International Focus Groups

Commission for Humans & the Biosphere (HABCOM)

The following reports from HABCOM were collated by Commission President Gary Haynes gahayes@unr.edu

Human colonization and paleoenvironmental contexts in subarctic and arctic Siberia and Beringia

Ted Goebel (Texas A&M University) reports that the Beringia working group has produced a series of 21 papers to be published in an edited volume entitled "From the Yenisei to the Yukon: Interpreting Lithic Assemblage Variability in Late Pleistocene/Early Holocene Beringia", edited by Ted Goebel and Ian Buvit. The volume will be published in 2010 by Texas A&M University Press. The concept of the volume was originally hatched at a workshop held at Texas A&M in 2006, co-sponsored by INQUA and NSF.

Hominin dispersals and palaeoenvironmental contexts in the Indian subcontinent.

Parth R. Chauhan (Stone Age Institute) reports that the "International Workshop on Plio-Pleistocene Environments and Hominin Evolution in India" was held in Bhopal (Madhya Pradesh, India), in early December 2008, funded by the Wenner-Gren Foundation for Anthropological Research and the Indo-US Science and Technology Forum. Co-organizers were Parth Chauhan and Rajeev Patnaik (Panjab University, India). Twenty-five researchers from India, USA, France, Australia, and the UK participated through presentations, discussions, and a one-day field visit to the sites of Hathnora and Bhimbetka. The presentations covered a range of topics such as Pleistocene palaeoenvironments, the potential impact of the Toba super-eruption, South Asian Palaeolithic technologies and adaptations, and prehistoric rock art in various parts of India, among others. Current debated

issues and theoretical and methodological problems in Indian palaeoanthropology were also addressed, as well as potential solutions. Currently a proceedings volume is in progress, to be published in the near future.

Several new projects by Parth Chauhan, collaborating workshop participants, and members of the Archaeological Survey of India were planned to be initiated in 2010. These Indian and international projects include

1. Test-excavations at Lower Paleolithic sites in the central Narmada Basin and adjacent areas such as the Raisen District
2. Renewed multidisciplinary excavations at the multi-component later Palaeolithic site of Patne in Maharashtra
3. Renewed palaeoanthropological research in the Karewa loess deposits of Kashmir, and
4. Systematic surveys for the earliest dispersals in the Siwalik Hills of northern India.

Following the workshop, and starting in January, 2009, intensive palaeoanthropological surveys and geoarchaeological excavations have taken place in the central Narmada Basin. In collaboration with Vijay Sathe (Deccan College, India), this includes geoarchaeological and geochronological investigations at the 'Pebble-Tool' site of Durkadi Nala and surveys between Tawa and Sher Rivers, all funded by the Wenner-Gren Foundation for Anthropological Research and the Fulbright Foundation. Additional discoveries included new stratified Palaeolithic occurrences and possibly the most complete *Stegodon* specimen in the Indian subcontinent. Numerous samples for luminescence dating were collected from these occurrences and other important fluvial sections. Associated laboratory work is in progress at the Physical Research Laboratory under the guidance of Ashok Singhvi.

An INQUA-funded workshop representing a new international project in the Siwalik Hills and associated actualistic studies will be held in early 2010.

Quantitative reconstructions of palaeoclimate, vegetation, landscapes, and

ecology from biological terrestrial proxies (sub-group: Palaeoecology and the conservation of biodiversity)

Althea Davies (University of Stirling, Scotland) is organizing a meeting for January 18-19, 2010, titled: "Use of long-term sources in upland ecology and management." Fraser Mitchell (Trinity College Dublin) organized a November 27, 2009, meeting (an annual symposium of the Irish Quaternary Association) on ancient DNA in animal and plant fossils, with direct relevance to conservation biology and biogeography. Jane Bunting (University of Hull) has published a new edition (number 5) of the newsletter "Bridging the Gap," which can be requested from her via email at m.j.bunting@hull.ac.uk. This issue contains news, meeting announcements, and suggestions for research that connects the fields of palaeoecology and neo-ecology, especially in regards to issues of environmental changes and the management of natural resources.

Late Quaternary faunal events in Eurasia

Jean-Philip Brugal (Directeur de Recherches CNRS) reports that the French National Committee (FNC) of INQUA has supported different scientific meetings over the last two years, especially in the context of the Commission on 'Humans and the Biosphere.' These include an International Round-Table: Geoarchaeology and Taphonomy, organized by Carolina Mallo (UMR6636, CNRS), 24th to 26th, Sept.2008, at the Maison Méditerranéenne des Sciences de l'Homme, Aix-en-Provence, initiated by the RTP (Réseau Thématique Pluridisciplinaire) en Taphonomie, CNRS-EDD (person responsible J.P. Brugal). The main goal of the meeting was to integrate sedimentary studies with taphonomic processes that commonly affect biogenic and anthropogenic remains within archaeological sites. Such processes can be viewed from different temporal, spatial and genetic perspectives. It was particularly interesting to see how geoarchaeology can contribute to the reconstruction and understanding of taphonomic processes in archaeological sites. The meeting got together 35 oral presentations, and it is planned to be in part published in an issue of *Quaternary International*. In 2009, the FNC supported les Journées de Paléocéanographie IMAGES-France, held 25-27 November 2009 (Université Bordeaux-Talence), to reinforce relationships with the community of palaeo-oceanographers. In 2010, The French National Committee of INQUA will bring its label to the next (5th) International Conference on Mammoths and Their Relatives, in Le Puy-en-Velay (France), 30th August to 4th September 2010. More than 250 scientists from all over the world are expected to attend the meeting and present new and unpublished results on many topics such as evolution, the environment, associated fauna, absolute dating, ancient DNA, etc. Professor Yves Coppens (Collège de France) and Frédéric Lacombe (Musée Crozatier, France) are the chairmen of the Scientific Committee.

Human colonization and paleoenvironmental contexts in China, Mongolia, and adjoining East Asia

Akira Ono (Tokyo Metropolitan University, Japan) organized a Tokyo symposium in February, 2009. The theme was "Dispersal of *Homo sapiens* to East Asia and the Japanese islands during OIS3." The participants had

three goals – to review current issues on the dispersal of *Homo sapiens* to East Asia; to discuss basic archaeological phenomena in the Initial Upper Palaeolithic stage of the first peopling of the Japanese islands during the middle of OIS3; and to distinguish geomorphological features of OIS3 at various locations in the Japanese islands. The proceedings will be published in an upcoming issue of *Quaternary International* entitled "Palaeoenvironmental changes and human dispersals in East Asia during MIS3 and MIS2."

Professor Gao Xing (Institute of Vertebrate Paleontology and Paleoanthropology, Beijing, China) reports that the First Asian Conference on Quaternary Research (ASQUA) together with the International Symposium on Paleo-anthropology in Commemoration of the 80th Anniversary of the Discovery of the First Skull of Peking Man was held in Beijing, 19–23 October 2009. Over 230 participants from over 20 countries attended the conference. The theme of the conference was 'Human Evolution and Environment Changes'. Three sessions were organized:

1. Origin and evolution of humans;
2. Early human behaviours and cultures; and
3. Changes in geological environment and human activities in Asia.

An ASQUA business meeting was convened during the conference, and it was decided that the ASQUA conference would be held in Asian countries every four years during INQUA's inter-Congress period. The Quaternary Association of the host country will decide the date, location city, and the theme. The next ASQUA will be in 2013, and Russia is suggested to be the host country. Further information will be provided by the Russian Association for Quaternary Research in due course.

Christopher Norton (University of Hawai'i at Manoa) reports that in January 2010, the journal *Quaternary International* will publish the proceedings of a symposium he organized in 2008 at the Annual Meeting of the Society for American Archaeology. The special issue is Volume 211, entitled "Hominin Morphological and Behavioural Variation in Eastern Asia and Australasia: Current Perspectives."

Quaternary (formerly "Holocene") palaeoenvironmental changes in Africa

Julius Lejju Bunny (Mbarara University of Science and Technology, Uganda) reports that the second workshop of the East Africa Quaternary Research Association (EAQUA) was held in Addis Ababa, Ethiopia, 20-25 May, 2009, in conjunction with a project meeting organized by Mohammed Umer (Addis Ababa University), "Network for establishing a multi-proxy palaeo-botanical expertise in East Africa". The theme of the workshop was "The East African Quaternary: Lessons from the past for the future." A third EAQUA workshop will be held in Zanzibar, Tanzania. The suggested workshop dates are between 8 and 14 February, 2011. The theme will be: "On- and off-shore: Eastern Africa during the last 100 ka."

Izuchukwu Mike Akaegbobi (University of Ibadan, Nigeria) reports that the inaugural international workshop on Quaternary palaeoclimatic changes in West Africa was held in Ibadan, Nigeria, 26-30 October, 2009. The meeting's central theme was "Palaeo-climatic/sea level changes and anthropogenic responses and adaptations during the Quaternary in the West African sub-region:

Evidence from marine and terrestrial sources. The meeting enhanced networking among regional and international Quaternary scientists, and promoted the emergence of the West African Quaternary Research Association (WAQUA). The next meeting will take place in Cotonou, Benin Republic during October 2010.

Both meetings were co-sponsored by INQUA, PAST (Palaeontological Scientific Trust), and PAGES.

The post-LGM Late Glacial: rapidly shifting palaeoenvironments and human responses

Lawrence Straus (University of New Mexico), along with Ted Goebel (Texas A&M University), has co-organized a double symposium (morning and afternoon of April 17) for the 2010 Annual Meeting of the Society for American Archaeology, with the theme "Human responses to the Younger Dryas in the Northern Hemisphere: Old and New Worlds." INQUA is an honorific sponsor. Papers will be published in a future issue of *Quaternary International*. Another symposium is also planned by Straus for the 2011 Bern INQUA Congress, to be co-organized with Denise Leesch (Neuchâtel), the theme being the Magdalenian of Western and Central Europe, as a case study in Late Last Glacial human re-expansion and colonization during a time of broad, flexible social networks, variable subsistence, complex palaeoecology, and territorial variability.

The population genetics of extinct flora and fauna

Jessica Metcalf (University of Adelaide), Robert Guralnick (University of Colorado), and Alan Cooper (University of Adelaide) have organized a catalysis meeting funded by the (U.S.) National Evolutionary Synthesis Center, to be held in 2010 in Durham, North Carolina, entitled "Integrating datasets to investigate megafauna extinctions in the Late Quaternary" (short title: megafauna extinctions). The meeting will bring together about 30 scientists from all over the world, representing the fields of radiometric dating, ancient DNA studies, stable isotopes studies, archaeological studies, taphonomy, bioinformatics approaches to synthesizing multiple types of datasets, and quantitative reconstructions of palaeoclimates, palaeovegetation, and models of species distributions. The combination of such a broad range of disciplines and bioinformatics power promises to provide a much clearer scientific view of a major evolutionary event, the asynchronous extinctions that removed large proportions of island and continental faunas. The extinctions remain deeply contentious despite decades of research.



Commission for Terrestrial Processes, Deposits & History (TERPRO)

Glaciation and its Control on Hydrology

Leaders: Jasper Knight, University of Exeter, UK, j.knight@exeter.ac.uk & Neil Glasser, Aberystwyth University, UK, nfg@aber.ac.uk

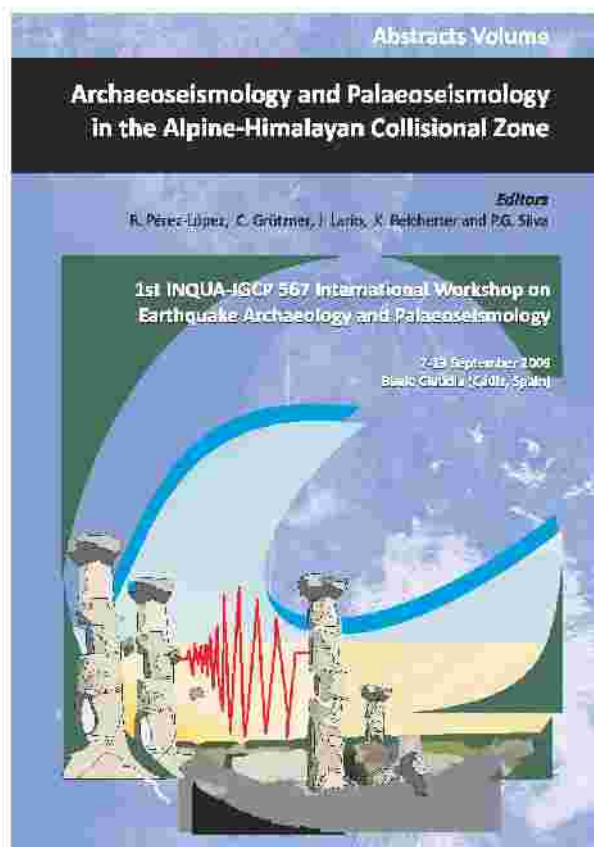
This IFG is convening an oral and a poster session at the American Geophysical Union, Fall Meeting (14-18 December 2009), organised by Jasper Knight (University of Exeter, UK) and Neil Glasser (Aberystwyth University, UK). These sessions focus on climatic versus internal dynamical forcing of glacial systems in the past, present and future. Presentations discuss (geographically) glaciers from many parts of the world, including Greenland, Antarctica, Iceland, Himalayas, Patagonia, Alaska and Canada; and (thematically) issues of dating, modelling, geotechnical and chemical properties, and the relationship of these factors to climate forcing.

Paleoseismology and Active Tectonics



1st International INQUA-IGCP 567 Workshop on Earthquake Archaeology & Palaeoseismology, 7–13 September 2009, Ancient Roman City of Baelo Claudia (Cádiz, Spain).

Report by Pablo G. Silva pgsilva@usal.es (USAL, Spain), Klaus Reicherter (RWTH Aachen, Germany), Alessandro Michetti (Italy), Manuel Sintubin (Belgium).



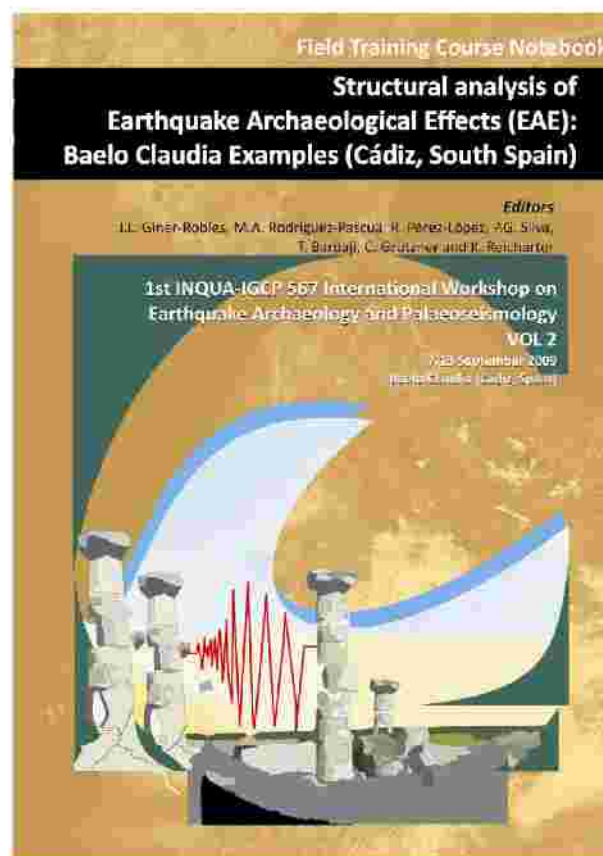
The aim of this joint meeting, involving the IGCP 567 (Earthquake Archaeology) and the International Focus Group on Paleoseismology and Active Tectonics of the INQUA Commission on Terrestrial Processes was to stimulate comparative discussion on earthquake ground effects and archaeological seismic records in order to elaborate a comprehensive classification for the future cataloguing and parameterization of ancient known and unknown earthquakes. The final goal of this kind of collaborative workshops is the further integration of archaeoseismological data into Macroscopic Scales such as the Environmental Seismic Intensity Scale ESI-2007 developed by the former INQUA Subcommittee on Paleoseismology (President A. Michetti) and approved by the General Assembly of INQUA celebrated during the XVII INQUA Congress (2007, Cairns, Australia).

The workshop was initially an INQUA activity proposal approved in the business meeting of the former subcommission held in Cairns (Australia). The organizers of the workshop, P.G. Silva (USAL, Spain) and K. Reicherter (RWTH Aachen, Germany), in agreement with A.M. Michetti (President of the INQUA F.G. on Paleoseismology) and M. Sintubin (Leader IGCP 567), implemented this activity as a joint meeting within the agenda of these two international research programmes. The workshop was held in the Ancient Roman City of Baelo Claudia (Cádiz, Spain), where relevant ground and architectural deformations caused by ancient earthquakes (1st and 3rd Centuries AD) are spectacularly recorded (Silva et al., 2005; 2009). The activities of the workshop also included a successful two-day field training course on archaeoseismology and paleoseismology.

This joint meeting was attended by 101 researchers from eighteen different countries (Austria, Belgium, Czech Republic, Germany, Greece, Hungary, Iran, Israel, Italy, Japan, Lithuania, Norway, Portugal, Russia, South Korea, Sweden, Spain and USA). The event was also economically supported by different institutions, such as the Museum of Baelo Claudia (Junta de Andalucía, Spain), the Spanish Geological Survey (IGME), the Spanish Open University (UNED), the Spanish Association for Quaternary Research (AEQUA), the RWTH Aachen University (Germany), and the University of Salamanca (Spain). Specific economic support was given by the ICSU Spanish Commission (Subprogram of International Complementary Actions: ACI Committees -INQUA Committee- ACI2008-0276) and by the German Von Humboldt Institute. Nineteen young scientists and researchers from developing countries were granted by the INQUA Project 0811(4), IGCP 567 (5), AEQUA (6) and the Workshop Organization (3). Three invited speakers (J. McCalpin, T. Rockwell and N. Möner) received travel grants.

The scientific production during the five days of the meeting resulted in 51 scientific contributions, 27 oral presentations and 24 in poster format. All the contributions were collected in an abstract volume of 186 pp entitled "*Archaeoseismology and Palaeoseismology in the Alpine-Himalayan Collisional Zone*" (R. Pérez López, C. Grützner, J. Lario, K. Reicherter and P.G. Silva, Eds.) ISBN: 978-84-7484-217-3. Additionally a *Field-Trip Guide Book* (J. Lario et al., Eds.) and a *Field Training Course Notebook* (J.L. Giner et al., Eds.) were published and edited in full-colour by the Spanish Geological Survey (IGME). The *Field Trip-Guide Book* (96 pp.) collects the data, pictures, and explanations regarding to the three field-trips developed

during the workshop: (1) Archaeoseismology of Baelo Claudia (Leaders P.G. Silva and K. Reicherter); (2) Landslides and Tectonic scarps in the Bolonia Bay (Leaders T. Fernández-Steeger et al.); (3) Quaternary Tectonics in the Gibraltar Strait Area (Leaders P.G. Silva et al.). The *Field Training Course Notebook* (65 pp.) collects a detailed methodology of structural analysis applied to archaeoseismological research, including several working-maps and eight full-colour comprehensive file-sheets of the more common Earthquake Archaeological Effects (EAE), whose development and classification was presented by the Spanish Working Group during the workshop. Detailed referencing to the documentation resulted from this event is included in the reference list at the end of this report.



The workshop was subdivided in four main thematic sessions on Paleoseismology (Chairmen: J. McCalpin & K. Reicherter), Archaeoseismology (Chairmen: M. Sintubin & K. Hinzen), Earthquake Ground Effects (Chairmen: A. Michetti & P.G. Silva) and Active Tectonics (Chairmen: T. Rockwell & I. Papanikolaou) plus a general poster session (Chairmen: R. Pérez López & C. Grützner). Two introductory keynotes were presented after the opening ceremony by E. Vittori - A.M. Michetti: INQUA Keynote on Earthquake Ground Effects during Moderate Events: L'Aquila 2009 Event Case history and the application of the ESI 2007 scale, and M. Sintubin: IGCP-567 Keynote on Archaeoseismology, past, present and future. During the different sessions several thematic conferences by outstanding invited speakers were successfully produced on Fault Trenching (T. Rockwell, USA), Paleoseismology (J. McCalpin, USA), Archaeoseismological modelling (K. Hinzen, GER), Active Faulting (I.D. Papanikolaou, GRE), Tsunami records (A. Vött, GER), Parameterization of

Paleoearthquakes (R. Tatevossian, RUS) and Seismically induced liquefaction (N. Mörner, SWE), among others. The development of the workshop resulted in a detailed overview on the state of the art of the different disciplines involved in these two emergent scientific approaches to earthquake research, illustrated by presentations coming from different parts of the world. From debates developed during the different sessions it is clear that the application of computer modelling and LIDAR techniques to the seismically induced features is the next step to be applied to this kind of investigations, since they provide a detailed imaging and a very accurate data processing for different seismic (real and hypothetical) scenarios. Also during the meeting a specific keynote on "Cataloguing earthquake environmental effects" (L. Guerrieri & S. Porfido) provided an overview on the progress of the INQUA Project 0811: "A global catalogue and mapping of earthquake environmental effects". Several contributions dealt with the application of the ESI-2007, developed within the framework of INQUA during the past inter-congress period (2003-2007), to different recent and ancient earthquakes around the world.

Gibraltar Strait area (Trafalgar Cape, Conilete Tower; Zahara tsunami beach), as well as to the evidence of active faulting in the area (Cabo de Gracia Fault, Hotel Flamenco Fault, Bolonia Bay area). In most of the field-trip stops fruitful discussions took place on the seismically induced origin of the observed features. The congregation of scientists from the different thematic areas included in palaeoseismological and archaeoseismological studies made possible the testing of hypotheses from different points of view "on site".

The Field Training Course on Archaeoseismology and Paleoseismology Research was attended for 56 of the 101 participants, most of them young scientists and researchers of different disciplines interested in their introduction to the specific particularities of these kinds of field investigations. The two-day course was divided into specific keynotes and half-journey field-works on geophysical prospecting, structural analysis and LIDAR imaging of seismically induced geological and archaeological features. All the geophysical equipment (Ground penetrating radars, multi-channel resistivitymeters and LIDAR Station) was provided by the RWTH Aachen University and the Salamanca University.

The more relevant contributions to the workshop will be collected in a special volume of the journal *Quaternary International* entitled "Earthquake Archaeology and Paleoseismology" edited by P.G. Silva, M. Sintubin and K. Reicherter. The steering committee for this volume is formed of C. Grützner, R. Pérez López, I. Papanikolaou and A. Michetti. This thematic volume is presently in progress. The open access submission using the electronic submission system of Elsevier (EES) started in late October 2009 and the deadline for submission has been fixed at 31 March 2010. A link for submission is open in the usual *Quaternary International* editorial site. A label entitled "Paleoseismology" is available in the pull-down menu of the web-site: <http://ees.elsevier.com/quatint/>

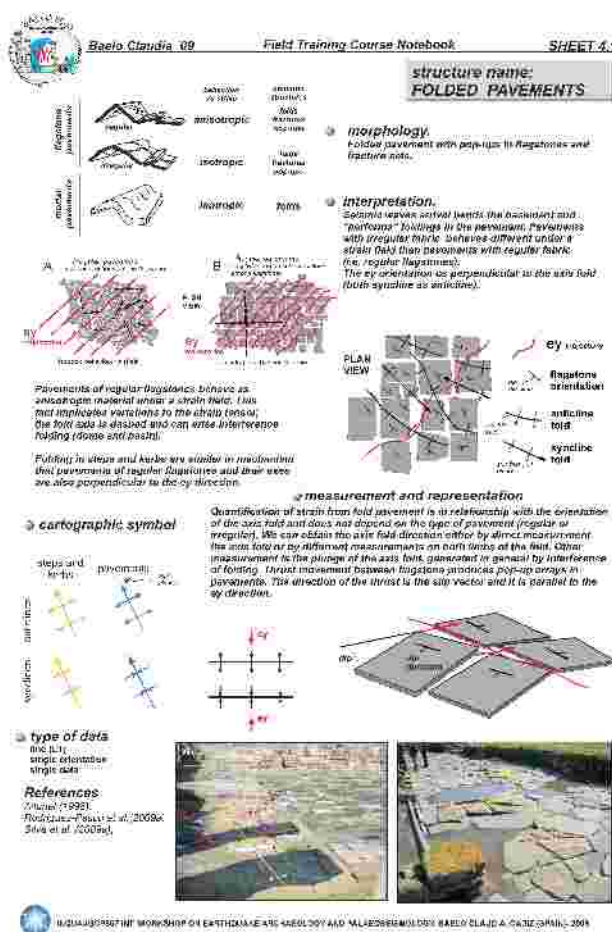
During the workshop were also held the business meetings of both the INQUA I.F.G. on Paleoseismology and Active Tectonics, and IGCP 567, as well as the official formalization of the Spanish Working Group of the IGCP 567. In the light of the success of this event, it was decided to organize a second joint-meeting of similar characteristics during 2011. Dr. Ioannis Papanikolaou of the Agricultural University of Athens will be in charge of the organization of the next event.

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Example of File-sheets included in the Field Training Course Notebook about Earthquake Archaeological Effects (Giner et al., 2009) of the 1st International Workshop on Earthquake Archaeology and Palaeoseismology.

The main field-trip of this scientific event was attended by all participants of the workshop. It was devoted to visiting and analysing the main signatures of the well-known 1755 AD Earthquake-Tsunami Event on the littoral of the

Abstract Vol. 1st International Workshop on Earthquake Archaeology and Palaeoseismology. Serv. Pub. ETSI Industriales, UPM (UNED-AEQUA), Madrid, 189 pp. ISBN: 978-84-7484-217-3.

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in Kyushu, 2010". *Photo: Hiroshi Moriwaki, Kagoshima University*

Members of the International Focus Group on tephrochronology and volcanism (INTAV) have been busy preparing for a conference in May 2010 in southern Japan, and in developing the INTREPID project and a related international laboratory intercomparison project on the analysis of glass by electron microprobe.

The international tephra meeting "Active tephra in Kyushu, 2010", to be held in Kirishima City (near Kagoshima) on southern Kyushu Island, Japan, from 9-17 May 2010, is shaping up to be a very interesting and informative meeting with considerable interest being shown from a wide range of possible participants from around the world. This conference maintains the long tradition of very successful inter-INQUA tephra meetings held previously in USA (1990), New Zealand (1994), France (1998), and Canada (2005). The meeting in Japan will facilitate not only an opportunity for the presentation and discussion of the latest advances in tephra studies, but also provides an exceptional insight into the inter-relationships between volcanism, human activity, and palaeoenvironment. Kyushu Island, with its long settlement history and tephra-dated archaeological record, is an ideal location for this purpose. The conference venue lies adjacent to Kirishima National Park and is well known for its active volcanoes including Sakurajima (Fig. 1), volcanic lakes, and hot springs. The second circular, which lists deadlines and costs and other information, is now available at <http://www.ris.ac.jp/intav-jp/index.html>

The conference will feature two intra-conference field trips and a three-day post conference trip (e.g., Fig. 2) as well as oral and poster sessions and workshops during the week. Keynote speakers will also feature on the programme. Young scientists (post doctoral fellows for example) and masters and doctoral students are especially encouraged to attend the meeting and to apply for funding support made available through a grant by INQUA for the INTREPID project and by other sources (see the second circular for details)

The INTREPID project was reported in the previous *Quaternary Perspectives* newsletter: it is an overarching project entitled "Enhancing tephrochronology as a global research tool through improved fingerprinting and correlation techniques and uncertainty modeling" (see http://www.sges.auckland.ac.nz/gfx/about_us/affiliations/intrepid_project_intav_inqua0907.pdf). INTREPID's central goals are to advance understanding and efficacy in fingerprinting, correlating, and dating techniques, and to evaluate and quantify uncertainty in tephrochronology, and thus enhance the capability of the method to provide an optimum linking, dating and synchronizing tool for a wide range of Quaternary research projects around the world. At the same time INTREPID aims to help re-build the global capability of tephrochronology for future research endeavours. It has five interlinked objectives (in brief):

1. New characterization techniques
2. Improved guidelines and protocols for geochemical data acquisition and quality
3. Developing regional databases
4. Objective correlation and quantification of uncertainty
5. Improving age models for key marker tephtras.

Work in progress on these topics will likely feature in some sessions at the Kirishima conference next year, especially

Tephrochronology and volcanism (INTAV)



Secretary: David J. Lowe, University of Waikato, New Zealand d.lowe@waikato.ac.nz



Fig. 1 Eruption of Sakurajima on 3rd October, 2009. This volcano is close to the venue (Kirishima City) of the forthcoming international tephra conference "Active tephra

under the theme comprising objective 2. To that end, members of INTAV have set up an international inter-laboratory comparison project for use of microprobe and SEM-EDS laboratories involved in the routine analysis of volcanic glasses for tephrochronology. In many cases, geochemical differences between glasses from tephtras can be subtle, requiring high levels of precision and accuracy for successful and correct identification. The intercomparison is thus intended to see how well the tephtra community is doing in regard to data quality, similar to the assessment undertaken by the radiocarbon community on a regular basis. In addition, by supplying well-characterized reference glasses to multiple laboratories, this project has distributed a uniform set of reference samples that will remain useful long after the intercomparison is completed. The project is now well under way and,

as of mid-November, around 24 laboratories had signed up and received mounts of glasses to be analysed. Results are due by the end of January, 2010. Laboratories involved thus far are in Japan, Taiwan, New Zealand, Europe (including Iceland), USA, and Canada. The project is being coordinated and led by Steve Kuehn (USA) and Duane Froese (Canada) and also involves input from Siwan Davies (UK), Brent Alloway (New Zealand), and Phil Shane (New Zealand).

Preliminary results will be presented at the Kirishima tephtra meeting in Japan in May, 2010.

For further information about the project go to http://www.env.auckland.ac.nz/about_us/intav_lab.shtml or contact Dr Stephen Kuehn kuehns@wlu.edu.



Fig. 2 Holocene tephtras and buried soil horizons in Miyakonojo Basin, southern Kyushu Island, Japan. *Photo:* David Lowe, University of Waikato.

Hydrology and Climate (GLOCOPH)

Leader: Gerardo Benito, Environmental Science Centre-CSIC, Madrid, Spain. benito@ccma.csic.es

Global Continental Palaeohydrology (GLOCOPH) meeting, Haifa-Jerusalem-Dead Sea-Negev, Israel, 25th October-3rd November, 2009

The 7th International Meeting on Global Continental Paleohydrology, promoted by the International Focus Group on "Hydrology and Global Change" of the Terrestrial Processes (TERPRO) Commission of the International Quaternary Association (INQUA), was held in Israel between 25th October and 3rd November 2009. The aim of the meeting was to bring together scientists working on a diversity of research themes which relate to different aspects of the hydrological cycle, including rivers, lakes,

and groundwater systems, at all temporal and spatial scales, but giving special emphasis to late Quaternary change at terrestrial sites, to analyse both rapid changes (decades to centuries) and long-term (centuries to millennia) changes. The conveners of the workshop were Yehouda Enzel (Hebrew University, Jerusalem), Noam Greenbaum (University of Haifa) and Tamir Grodek (Hebrew University, Jerusalem), and it was attended by 60 researchers and professionals, representing some 12 countries. The Meeting comprised (a) two days of oral presentations held at the Haifa University's Geography Department and at the Institute of Earth Sciences of the Hebrew University of Jerusalem; (b) seven-day intensive field trip, with two days in northern Israel and five days along the western Dead Sea and in the northeastern Negev Desert, and (c) key note lectures by top Israeli geoscientists on the evening of the field trip days. In the

meeting were presented 42 scientific works, 32 oral presentations, including 17 key notes (30-40 minutes oral presentations), and 10 posters. The seven days field trip included visits to research sites in diverse environments presenting various aspects of fluvial and lacustrine palaeohydrology, paleoclimatology, geomorphology, and related research fields at the eastern Galilee, the Sea of Galilee, the Dead Sea, and the northeastern Negev regions. The field trip participants visited 40 sites (stops), on which 27 scientists from six Israeli universities and institutions contributed with on-site explanations on the bases of scientific publications in top scientific publications. The meeting was very intensive in terms of scientific content and schedule undertaken by a perfect organisation from the Israeli convenors. The high quality scientific presentations on palaeohydrological cross-cutting issues (fluvial, lakes, groundwater, etc.) and related techniques (isotopic composition, mineralogical analysis, geochronology) were positively viewed by the meeting participants as the way to understand long-term climate and environmental changes. The field trip presentations provided a unique opportunity for on-site discussions of probably one of the World's best palaeohydrological records based on a combination of palaeolimnological, fluvial and groundwater research, as well as showed the top quality of Israeli research in these fields.

The GLOCOPH group identified some key future research themes to be addressed on the basis of on sedimentary records and related techniques

- § Extending knowledge of how past hydrological changes/global change in the past can illuminate future scenarios, employing databases as appropriate;
- § Using results of global change modeling at a variety of temporal and spatial scales to investigate how anthropogenic climate change will affect fluvial catchments;
- § Investigating how specific land use changes are affecting fluvial and lake catchments in different climatic contexts.
- § To further develop new proxies and methods for the quantitative estimation of past hydrological change that can be input to and tested against Global and Regional Climate models.
- § To foster links among climate, hydrological and environmental changes by means of establishing close relationships among continuous terrestrial records on proxy climate (U series on speleothems and travertines etc), high resolution marine-core and ice-core records, and closely age-spaced data from other terrestrial material (rivers, lakes glacial detritus, soils). This requires a close interaction of terrestrial groups with the up-dated technologies for finely resolving chronology and the associated environmental changes.

Further information on GLOCOPH group aims and activities can be obtained from the web page: <http://www.giub.uni-bonn.de/herget/terpro-hydrochange/>



National Members

Please update particulars of National Representatives when necessary

Remember to send us (Secretary-General Peter Coxon pcoxon@inqua.tcd.ie and Editor Margaret Avery mavery@iziko.org.za) notice of any changes to your National Representatives. This particularly important in the run-up to the next International Congress when you need to be informed of meetings of the International Council, elections, etc.

Austria

Report submitted by Jürgen Reitner
juergen.reitner@geologie.ac.at

19th meeting of the AGAQ

In April 2009 the DEUQUA working group on the Quaternary of the Alpine Foreland (Arbeitsgemeinschaft Alpenvorlandquartär) AGAQ, co-ordinated by M. Fiebig, had a two-day meeting in Kaufering (Bavaria/Germany) www.baunat.boku.ac.at/agaq.html.

The activities were focused on the documentation of the stratigraphic classification of the contributing countries/states Austria, Bavaria, Baden-Württemberg and Switzerland. Outlines of the Middle Pleistocene of northern Switzerland, the lithostratigraphy of the Austrian Quaternary and the stratigraphic sub-division of the Quaternary of Bavaria were presented. Discussions on these topics highlighted the different stratigraphic approaches and progress of the contributing partners. However, standardization is not an aim in the moment. The current status should be published in time for the INQUA 2011

Congress in Bern in *Eiszeitalter und Gegenwart* (Quaternary Science Journal).

M. Falkenberg (TU Munich) presented a poster on Quaternary channel structures below a drumlin field in the area of Kempten (Ill valley) based on the results of shallow seismic surveys by the former Geological Survey (Geologisches Landesamt) of Bavaria.

O. Keller gave a talk on the stratigraphic concept of Middle Pleistocene deposits in the basins of the Swiss Alpine Foreland, which was elaborated together with O. Krayss in cooperation with H.R. Graf and F. Preusser. Sediment sequences dated by pollen analysis and Optically Stimulated Luminescence document two glaciations within the classical Rissian and an Interglacial-complex ("Meikirch") in between the *Pterocarya*-bearing Interglacial (Holstein) and the Eemian-equivalent of Gondiswil.

B. Lempe and U. Bellmann (TU Munich) showed in their presentation surprisingly deep-reaching funnel-like weathering phenomena within the high terrace (Hochterrasse) near Memmingen. Reasons for their initiation and a first attempt to quantify the deficit of volume due to carbonate solution were discussed. E. Kroemer and J.

Wallner of the Geological Service of the Bavarian Environment Agency presented their new digital field survey tool GeoKart developed at the agency. Finally various topics like the state of planning of the INQUA 2011 Congress in Bern and possible contributions to the DEUQUA meeting in Greifswald were discussed.

The AGAQ-meeting terminated with a half-day excursion led by P. Schielein and B. Gesslein (University of

Bamberg) focused on the terraces of the Lech valley. The 20th AGAQ meeting will probably take place from 23rd to 25th of April 2010 in Switzerland with a special focus on the Deckenschotter (cover gravels) of the Swiss alpine Foreland.

Gerhard Doppler (Munich); Markus Fiebig (Vienna), Frank Preusser (Bern), Jürgen Reitner (Vienna), Johannes Wallner (Hof)



Gravel pit showing the build-up of the Rainer Hochterrasse in the Lech valley during AGAQ-meeting 2009. Rockslide Days

“Rockslide Days!” workshop at the Institute of Geology, University of Innsbruck

From October 1st to 4th, 2009 a workshop with the focus on rockslides and related mass-wasting phenomena took place at the University of Innsbruck (Austria). The aim to bring together experts in the phenomena of mass-wasting for discussions of problems and strategies, right at the outcrops.

During the first day, invited lecturers talked about various aspects and styles of mass-wasting. Topics included hazard assessment and individual case studies, disposition for mass-wasting, kinematics, computer simulations, and age-dating. Because of their large volume most rockslides have long-lasting effects on the valleys they descend into and may induce 'secondary catastrophes' such as rapid breakout of rockslide-dammed lakes.

During the following three days participants visited rockslides further afield. The excursion was dedicated to two prominent rockslides in the Upper Inn Valley – the Tschirgant and the Fern Pass – where focus was placed on the dynamic interaction of descending rockslides with valley-floor sediments and glacial sediments transported piggyback on moving rockslide masses. The second excursion visited the rockslide in Obernberg valley, where a toma landscape gave rise to extensive discussions of the style of rockslide movement and later geomorphic overprint. The nearly fully lithified rockslide mass of Pfitsch valley and the rockslide of Ridnaun, with its impressive

rockslide-dammed backwater terraces were also visited. The third and last day of excursions was dedicated to the multi-phase rockslide of Pletzachkogel in the lower Inn valley. This last rockslide is notable for having comprised a political boundary for centuries after its descent.

Although there are numerous rockslides in the Alps relatively little is known about their kinematics and styles of dispersion on valley floors. This topic is a playground for computer simulations that have to be cross-checked by field observations. Lively and extended discussions between earth scientists of different backgrounds, from pure modellers to field-boot type geologists, hopefully made this workshop a fruitful experience for all attendees.

Marc Ostermann, Christoph Prager, Diethard Sanders, Christian Zangerl (Innsbruck) www.uibk.ac.at/geologie/cra

Publications

Boch, R.; Spötl, C.; Kramers, J.: High-resolution isotope records of early Holocene rapid climate change from two coeval stalagmites of Katerloch Cave, Austria. *Quaternary Science Reviews*, 28, 2527-2538

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Meyer, M.C., Cliff, R.A., Spötl, C.; Knipping, M., Mangini, A., 2009: Speleothems from the earliest Quaternary: Snapshots of paleoclimate and landscape evolution at

the northern rim of the Alps. *Quaternary Science Reviews*, 28, 1374-1391

Pacher, M., Stuart A.J., 2009: Extinction chronology and palaeobiology of the cave bear (*Ursus spelaeus*), *Boreas* 38, 189-206.

Preusser, F.; Fiebig, M., 2009. European Middle Pleistocene loess chronostratigraphy: Some considerations based on evidence from the Wels site, Austria. *Quaternary International*; 198: 37-45

Reitner, J.M., Linner, M., 2009: Formation and preservation of large-scale toppling related to Alpine tectonic structures. *Austrian Journal of Earth Sciences* 102/2, (free access via www.univie.ac.at/ajes/)

Salcher, B.C., R. Hinsch, M. Wagneich. 2009: High-resolution mapping of glacial landforms in the North Alpine Foreland, Austria. *Geomorphology*, doi:10.1016/j.geomorph.2009.09.037.



Gerhard Poscher, Gernot Patzelt & Christoph Prager discussing the situation at Tschirgant rockslide.



Toma hills at the most distal part of the Obernberg rockslide.

Canada

Report by Vic Levson vic.levson@gems9.gov.bc.ca

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China



Report by Jule Xiao jixiao@mail.iggcas.ac.cn for CHIQUA Secretariat

The First Asian Conference on Quaternary Research Held in Beijing

The First Asian Conference on Quaternary Research (ASQUA) together with the International Symposium on Paleoanthropology in Commemoration of the 80th Anniversary of the Discovery of the First Skull of Peking Man was held in Beijing, 19–23 October 2009. Over 230 participants from over 20 countries attended the conference.

The theme of the conference was 'Human Evolution and Environment Changes'. Three sessions were organized:

1. Origin and evolution of humans;
2. Early human behaviours and cultures; and
3. Changes in geological environment and human activities in Asia.

Professor Zhongli Ding and Professor Jiaqi Liu, current and past Presidents of the Chinese Association for Quaternary Research (CHIQUA), attended the conference. Professor Ding gave a welcome speech at the opening ceremony of the conference. He reconfirmed

China's support to Quaternary research through the ASQUA that should serve as an important platform for scientific communication and cooperation among the Quaternary scientists from Asia.

An ASQUA business meeting was convened during the conference by Professor Jule Xiao, Secretary-General of CHIQUA, and Professor Xing Gao, co-convenor of the conference with the participation of Liping Zhou, Zhaoyu Zhu and Changzhu Jin from CHIQUA Secretariat, Min Te Chen from Chinese Taipei, Hisao Kumai and Yoshiki Saito from Japan, Yong Ahn Park, Boo Keun Khim and Sang Hyun Yi from Korea, and Margarita Erbjajeva from Russia. It was decided that the ASQUA would be held in Asian countries every four years during the inter-Congress period of INQUA. The Quaternary Association of the host country will decide the date, location city and the theme. Next ASQUA will be in 2013, and Russia is suggested to be the host country. Further information will be provided by the Russian Association for Quaternary Research in due course.

Eastern Africa



Report from Mohammed Umer moha_umer@yahoo.com and reprinted courtesy of PAGES from *PAGES news* • Vol. 17 No 3 October 2009 Newsletter.

East African Quaternary: Lessons from the past for the future. The 2nd Eastern African Quaternary Research Association (EAQUA) Workshop, Addis Ababa, Ethiopia, 21-24 May 2009, was organized by Asfawossen Asrat and Mohammed Umer of Addis Ababa University, Ethiopia; asrata@geol.aau.edu.et

The 2nd East African Quaternary Research Association (EAQUA) workshop was held in Addis Ababa, Ethiopia from 21-22 May 2009, followed by a post-workshop field trip to the Main Ethiopian Rift on 23-24 May. The workshop was organized by the Department of Earth Sciences, Addis Ababa University in collaboration with EAQUA; and was sponsored by PAGES, START, INQUA, the Paleo-Anthropology Scientific Trust, British Institute in Eastern Africa, the Revealing Hominid Origins Initiative, and local institutions (Addis Ababa University, Authority for Research and Conservation of Cultural Heritages, and Ministry of Science and Technology). The Workshop was officially opened by the State Minister of the Ministry of Culture and Tourism of Ethiopia.

The primary objectives of the workshop were to strengthen and enhance active communication on Quaternary research issues in the Eastern African region, and to serve as a forum for initiating new and strengthening existing collaborations and networking among the East African Quaternary community. Another objective was to bring together palaeoscientists who work in the region under the PAGES science structure, in particular Focus 2 (Regional Climate Dynamics) and Focus 4 (Human-Climate-Ecosystem Interactions). The workshop also aimed to assess the opportunities and challenges in research, training and capacity building.



More than 50 researchers participated from the Eastern African region (Ethiopia, Kenya, Tanzania, Uganda) and other parts of Africa (South Africa and Nigeria), as well as from Belgium, France, Germany, Ireland, Switzerland, UK, and USA. Thirty oral papers and eight posters were presented, organized in five major themes spread over two days.

During the first and second sessions, the climate of the last 2000 years, long-term monsoon variability and abrupt changes in East Africa were described using proxy rainfall data from many archives (lake and cave sediments, speleothems, tree rings, and pollen). Presentations in these sessions established the local and regional climate variations and emphasized the need for an integrated approach to understand the variations with respect to global climate forcings. Papers in the third session addressed the paleo-vegetation history of parts of Ethiopia, Kenya and Nigeria, using pollen, buried charcoal and soil organic matter, and related climate variations to societal development histories.

Archeological and fossil records in East Africa were presented in the fourth session. New, as well as published data from hominid, archeological and historical sites in Ethiopia, Kenya, and South Africa were presented. In the last scientific session, presentations addressed the impact of global and climate changes in East Africa, as well as assessment of adaptations and vulnerability. Studies from Kenya, Tanzania and Uganda showed the impacts of climate changes on biodiversity and hinted at adaptation mechanisms and mitigation measures.

The scientific presentations were followed by a discussion on potential workshop products, and plenary talks by representatives of INQUA, PAGES, and PAST, who presented brief program backgrounds. The final session of the workshop was dedicated to general discussion, EAQUA matters, and the way forward. The general discussion emphasized the need to strengthen EAQUA both in terms of membership and its institutional activities. To this effect, it was agreed that:

- § Proceedings of the workshop should be published in four synthesis papers addressing the four major themes.
- § Networking among EAQUA members and Quaternary researchers in East Africa should be strengthened. EAQUA should increase its visibility through webpages and other avenues.
- § The draft EAQUA Constitution should be circulated among members for comments and be rectified during the next meeting.
- § The next EAQUA workshop should be held in Zanzibar in 2011.

During the post-workshop field trip, participants visited archeological (Melka Kunture, and Tiya World Heritage Site), geological (crater lakes, rift-plateau escarpment, the Main Ethiopian Rift, the Lakes region: lakes Awasa, Shala, Abijata, Langano and Ziway), and biodiversity sites (Munessa forest). The geological, environmental and vegetation histories of the sites were explained by experts in the group, followed by lively discussions.

The workshop participants also enjoyed a visit to the Ethiopian National Museum in Addis Ababa, where world-famous hominid fossils are on display.

Finland

Report from Antti Ojala antti.ojala@gtk.fi

The IPY 2007–2008 was an international effort to coordinate and promote scientific research on the Polar Regions (<http://www.ipy.org>). Thousands of researchers from more than 60 countries and from a wide range of disciplines studied the Arctic and Antarctic, aiming to expand our current understanding of environmental and climate change and their global significance. Finland's IPY 2007–2008 activities included organizing a Congress of the International Polar Year (IPY) 2007/08, held at the Geological Survey of Finland from 12–13 November 2008. The Finnish National Committee of Quaternary Research (INQUA) was one main organizers of this interdisciplinary congress, which covered a wide range natural sciences, including geology, geophysics, hydrology, atmospheric

sciences, geography, marine research, geodesy, glaciology, and arctic geotechnics.

The research papers presented in the congress will be published in a special issue: "Proceedings of the Finnish National IPY Conference" of *Geophysica* Vol. 45, Nos. 1-2, 2009. *Geophysica* is the peer-reviewed Open Access journal of the Geophysical Society of Finland. <http://www.geophysica.fi>

Germany

Report from Margot Böse m.boese@fu-berlin.de

The DEUQUA (German Quaternary Association) <http://www.deuqua.de> will change the publication culture of its journal *E&G, Quaternary Science Journal*, with at least two volumes per year. From 2010 onward it will be an open access journal, but also with a printed version for members and on demand. The papers will predominantly be published in English. We invite Quaternary scientists, mainly those working on European related research topics to contribute to our journal with their important new results.

During the recent INQUA Congress interperiod, the DEUQUA held in 2008 its biannual meeting in Vienna, organised by Markus Fiebig, with the title "Veränderter Lebensraum - gestern, heute und morgen". Besides several exciting field-trips to the Danube area, the Neusiedler lake and the Alps, a visit to the Naturhistorisches Museum with the Venus von Willendorf was a highlight. The abstracts including those of a special session about Danube loess, chaired by Ludwig Zöller, are available through the homepage of the Austrian Geological Survey <http://www.geologie.ac.at> Publikationen, Abhandlungen, Band 62. A volume of *E&G, Quaternary Science Journal* with contributions and results of the DEUQUA meeting is in preparation.

In 2009, the AGAQ (Quaternary of the Alpine Foreland) held a meeting in Kaufering, Bavaria, focussing on lithostratigraphy, and in September, a three-day field trip dedicated to the topics Quaternary and the reshaping of the landscape after the coal mining was organised by members of the DEUQUA in the Leipzig area.

The next DEUQUA meeting from 13 -17 September 2010 will be organised by Reinhard Lampe at the University of Greifswald. This DEUQUA conference will be a joint meeting with the INQUA Peribaltic Group, having their own session (in English) as part of the meeting and joining the field trips in the Quaternary landscape of Mecklenburg-Vorpommern as well as at the Baltic Sea coast. We are happy to host the Peribaltic Group as most of the meetings during the last decade have been further east and northeast in the Baltic area, and we cordially invite all scientists to join the meeting in Greifswald and have a look at the southern fringe of the Scandinavian glaciation. Further information <http://www.deuqua.de>.

The DEUQUA is also participating with a session in the GeoDarmstadt, a congress organised by a number of German geo-sciences organisations from 10 – 17 October 2010 in Darmstadt.

Hungary

Report from Annamária Nádor nador@mafi.hu

The INQUA Hungarian National Committee

Based on the proposal of the outgoing National Committee and the President of the Hungarian National Committee of

IUGS, the Hungarian Academy of Sciences approved the composition and leadership of the new INQUA Hungarian National Committee to be in office till 2012. The president is Annamária Nádor from the Geological Institute of Hungary (nador@mafi.hu), the secretary is Erzsébet Horváth from the Dept of Physical Geography, Eötvös Loránd University, Budapest (herzsebet@gmail.com). The 14 members from different Hungarian universities and research institutions are well-known researchers from various fields of Quaternary sciences.

FLAG Biennial Meeting

The Fluvial Archives Group (FLAG), an independent research group with links to INQUA, IGU and IGBP (PAGES) held its biennial meeting in Hungary between 3rd and 7th September 2008. The meeting was dedicated to advances in river system and environmental change research at the crossroad of Western and Eastern Europe. 35 participants from 9 countries attended the conference. During the first two days lectures were presented in four sessions (Controls on sedimentary processes of river systems; Tectonic, climatic and base-level controls on river responses and alluvial architecture; Ancient and modern human-river environment interactions; Advances in dating and other analytical tools in fluvial sediments). This was followed by a 3-day excursion which visited locations at the Danube bend (Danube terrace system) and sites on the Great Hungarian Plain, where the drainage pattern development of the Tisza River and its tributaries during the Late Pleistocene and Holocene was discussed based on field evidences. Both the abstract book and the excursion guide can be downloaded from the FLAG homepage (www.giub.uni-bonn.de/herget/FLAG).

Recent questions of loess stratigraphy in the Carpathian Basin

The Hungarian Commission of Stratigraphy re-newed its Quaternary subcommission. The elected president is Árpád Magyari from the Geological Institute of Hungary (magyari@mafi.hu), the secretary is Balázs Bradák from the Department of Physical Geography, Eötvös Loránd University, Budapest (bradak.b@gmail.com). A meeting with a field trip was organized between 4-5 June 2009 on the debates of loess stratigraphy and nomenclature of the upper part of the Hungarian loess sequences (MIS 2-6).

The more than 40 participants visited 4 classical loess profiles from the western part of the Danube bend and the southern parts of the Transdanubian Hills on the first day (Sütto travertine quarry with loess cover, Basaharc abandoned clay pit, Paks clay pit section and Szálka abandoned loess pit). A lot of discussion was initiated about the age and stratigraphic position of the various loess units and palaeosols as recent geochronological data (Ruszkiczay-Rüdiger, Zs., et al., 2005b. *Tectonophysics* 410: 173-187. Novothny Á., et al., 2009. *Quaternary International* 198: 62–76.) and a more detailed facies interpretation (differences in the palaeomorphology, re-deposition, hiatuses) put a new light on the former classification established by Márton Pécsi and his co-workers during the 1970-80s.

The accommodation and icebreaker-welcome party was organized in the Bátaapáti Research Laboratory of the Geological Institute of Hungary, which is the centre of geological and hydrogeological explorations devoted to the future disposal of low- and intermediate-level radioactive waste from the Paks Nuclear Power Plant. The planned disposal site is situated in the Mórógy block, S-

Hungary, a Carboniferous granite massive covered by several tens of metres of loess, which are therefore also the targets of detailed investigations. A great number of boreholes crossed the cover loess which made possible a unique correlation (Balla, Z., Gyalog, L.(eds), 2009. Geology of the NE-ern part of the Mórágý Block. *Regional Map Series of Hungary*. Publication of the Geological Institute of Hungary, 216 p.). On the second day two cores

of the Üveghuta (Bátaapáti) site were investigated and discussed in deep details. Both (Üh-45, Üh-22) crossed the whole Quaternary sequence. Four talks were presented by invited lecturers concerning the questions of local and regional loess stratigraphy, their classification, correlation, laboratory and geophysical methods of investigations.



Italy

Report from Adele Bertini & Laura Sadori Laura Sadori laura.sadori@uniroma1.it (guest editors) and Norm Catto (Editor-in-chief *Quaternary International*)

The special issue "Palaeobotanical and Palynological records from Italy" is listed for publication in May-June 2010 in *Quaternary International*, the official journal of the International Union for Quaternary Research. Guest editors of the issue are Adele Bertini and Laura Sadori. Accepted articles can be downloaded from <http://www.sciencedirect.com/science/journal/10406182>

The volume represents the follow-up of the workshop "The state of the art of palaeobotanical and palynological research in Italy from the Pliocene to the middle Pleistocene". The meeting, sponsored by SBI (Società Botanica Italiana) and AIQUA (Associazione Italiana per lo studio del Quaternario) was held in Rome on 17th and 18th December 2007.

In this volume, a collection of ten articles plus the introduction is presented, with records spanning from Pliocene to Middle Pleistocene. Both original papers and syntheses form the issue, together constituting a complex synthesis of the palaeobotanical and palynological

research carried out in Italy in the last decades. List of articles:

- Palaeobotanical and palynological records from Italy: Introduction to the special issue. Adele Bertini, Laura Sadori.
- Pliocene to Pleistocene palynoflora and vegetation in Italy: state of the art. Adele Bertini.
- Reconstructing "Plant Community Scenarios" by means of palaeocarpological data from the CENOFITA database, with an example from the Ca' Viettone site (Pliocene, Northern Italy). Edoardo Martinetto, Elena Vassio.
- Conifers in extinction in Quaternary Italian records. Maria Follieri.
- Pollen and macrofossil analyses of Pliocene lacustrine sediments (Salto river valley, Central. Italy). Laura Sadori, Marco Giardini, Edi Chiarini, Massimo Mattei, Felicia Papisodaro, Massimiliano Porreca.
- *Picea+Tsuga* pollen record as a mirror of oxygen isotope signal? An insight into the Italian long pollen series from Pliocene to Early Pleistocene. Fabio Fusco.
- Fossil leaves and sporomorphs in the museological Coppi Collection, originally from the Plio-Pleistocene

Argille Azzurre Formation (San Venanzio, Northern Italy). Isabella Massamba N'siala, Anna Maria Mercuri.

- Impact of short-term climatic events on latest Pliocene land settings and communities in central Italy (upper Valdarno basin). Adele Bertini, Maurizio Magi, Paul Mazza, Séverine Fauquette.
- An Early Pleistocene interglacial record from an intermontane basin of central Italy (Scoppito, L'Aquila). Donatella Magri, Federico Di Rita; Maria Rita Palombo.
- Pollen and mammals from the late Early Pleistocene site of Saticula (Sant'Agata de' Goti, Benevento, Italy). Elda Russo Ermolli, Raffaele Sardella, Giovanni Di Maio, Carmelo Petronio, Nicoletta Santangelo.
- An integrated stratigraphical approach to the Middle Pleistocene succession of the Sessano basin (Molise, Italy). Elda Russo Ermolli, Pietro Aucelli, Andrea Di Rollo, Massimo Mattei, Paola Petrosino, Massimiliano Porreca; Carmen Roskopf.

Korea

Report from Ju Yong Kim kjy@kigam.re.kr

I am the president of the KOQUA until the end of December 2009.

We have launched AsQUA (Asian Quaternary Association) this October, 2009, among nations including China, Japan, Korea, and so on.

Lithuania

Report from Petras Sinkunas sinkunas@geo.lt

After the death of Prof. A. Gaigalas the Lithuanian National Committee of Geologists (IUGS) has elected Dr. Migle Stancikaite (stancikaite@geo.lt) to fill the vacant position. She is a Deputy Director for science and studies in Institute of Geology and Geography. Despite her administrative position, she is very active in research of the Quaternary.

Mexico

Report from Socorro Lozano-García, mslozano@servidor.unam.mx

The 11th International Paleolimnology Symposium <http://www.geofisica.unam.mx/paleolimnologia/> is being held from the 15 to 18th December in Guadalajara. This symposium was postponed because of the Influenza epidemics so we are very busy at this moment. A more detailed report will appear in the next edition.

Poland

Report from Leszek Marks leszek.marks@pgi.gov.pl; lmar@pgi.gov.pl

Polish-Ukrainian cooperation in research on loess deposits in the western part of Ukraine

The western part of Ukraine has environmental conditions especially favourable to study the history of climatic changes, natural environment and relief during the Pleistocene in Central Europe. It is a geographical zone of the continental bridge between the Baltic Sea and the Black Sea, which forms a passage between eastern and western part of the European continent, and in the south it is bordered by the Carpathians barrier. This fact makes this area to be characterized by merging effects of maritime climate in the west and continental climate in the east, both in modern times and in the Pleistocene. From a

palaeogeographic perspective this area is the borderland between the Europe affected by Scandinavian glaciations and a cold periglacial zone during the Pleistocene and the territories subjected to milder southern atmospheric circulation.

The main forms of terrigenous deposits of the described area include Quaternary loess covers (Fig. 1) and alluvial deposits of Pliocene and Quaternary age. Loess accumulation occurred in periglacial conditions of extraglacial zone, except for a small area situated near the Polish state border where the Scandinavian ice-sheet reached the right-bank part of the Dniester River valley (crossing the European watershed) about 500 ka BP. It deposited a series of glacial deposits; therefore a loess occurs in this small territory in a special stratigraphic situation – under but mostly above a glacial series.

Regarding the landscape structure, loess deposits occur in genetically diversified landscape or are the main element of it. Besides the main aeolian facies, a loess occurs in deluvial, solifluction, and different transitional facies; from the geomorphological point of view the most important are plateau and terrace loesses, and then slope loesses.

The joint Polish-Ukrainian investigations of loesses in the western part of the Ukraine are conducted as a part of activity of the INQUA Polish National Committee. They have over thirty-year-long history; at first they were realized rather formally as field seminars under the auspices of the Committee for Quaternary Research of Polish Academy of Sciences or Committee for Quaternary Period Research of the Ukraine (at the beginning the latter was under the umbrella of the Academy of Sciences of USSR). Rapid development of these investigations have been initiated in the second half of the 1990 when systematic studies and different joint interdisciplinary projects were undertaken on the initiative of Professor Andriy Bogucki (Ivan Franko National University, Lvov) and Professor Maria Lanczont (Maria Curie-Skłodowska University, Lublin). Loess seminars are held as a joint initiative since that time (Fig. 2). Geological investigations of the West Ukraine are a continuation and refer to Galicia tradition from over a century ago (especially important is a monumental work of Physiographic Commission of the Polish Academy of Arts and Sciences: Geological Atlas of Galicia) and contemporary pioneer research that concerned the occurrence, origin and stratigraphy of loess in this region.

Many different specialists were invited to join the cooperation and their circle continues to expand. The team is composed of geologists, palaeogeographers, palaeobiologists, and also physicists and archaeologists. Members of this international team represent 10 scientific centres from Poland, five from Ukraine, and two from Belarus. The field work is conducted in key geological profiles in relation to geological-geomorphological survey of selected research areas in loess territories of the western Ukraine (East Carpathian Foreland, Volhynia, Podolia, Transcarpathian Ukraine). The collected samples are analyzed by different methods that are less or more used in geological examination of the Quaternary deposits, i.e. palaeomagnetic investigations, thermoluminescence and radiocarbon analyses, lithological, mineralogical and chemical analyses, geochemical analyses (in it isotope study), palaeopedological analysis (in it micromorphological analysis), palaeobotanical (palynological) analysis, palaeozoological analysis (malacofauna, ostra-

cods, bone remains). Palaeorelief is analysed using GIS methods. The fact of great significance is that all these methods are applied in individual sections so the obtained results can be verified, supplemented and checked.

For palaeoclimatic and palaeoenvironmental reconstruction the fact of key importance is that aeolian loess deposits form continuous and thick (up to 40 m and in extreme cases even 50 m) covers in a vast area. These loesses are usually characterized by stratigraphic continuity (continuity of aeolian deposition) and rich palaeogeographic content in the form of palaeosols, under- and sometimes intra-loess organic deposits, different cryogenic structures. It is undoubtedly fundamental to examine stratigraphy of loesses and Pleistocene in the Ukraine that is an excellent basis for chronostratigraphic correlation in over-regional and continental scales. The conducted loess investigations deal with several research problems.

1. "Long" loess sequences with the oldest layers

In several loess sections we find loess-soil sequences with palaeosols evidencing many (up to eight) periods of

warming of interglacial rank (also older than the Matuyama/Brunhes boundary), and complexes of periglacial structures that are among the oldest ones in Central Europe. The MBB was identified in the Zahvizdja, Skala Podilska (Fig. 3), and Korolevo sections. Particular palaeosols are varying in their development, and most of them have a complicated history. Traces of several overlapping soil-forming processes, separated by destruction stages, and several stages of gley processes are preserved in pedocomplexes. Postpedogenic, mostly discontinuous structures that deform these soils are deep open fissures filled with humus material (connected with frost processes, though not a permafrost) and occur in the Podolia Upland. They are not the ductile deformations found in the palaeosols of the same age in the East Carpathian Foreland that indicates some regional differences in a regional climate. An influence of a more humid climate occurred in the peri-Carpathian part of the middle Dniester River basin, and more distinct features of continental climate – in the upland plateau.

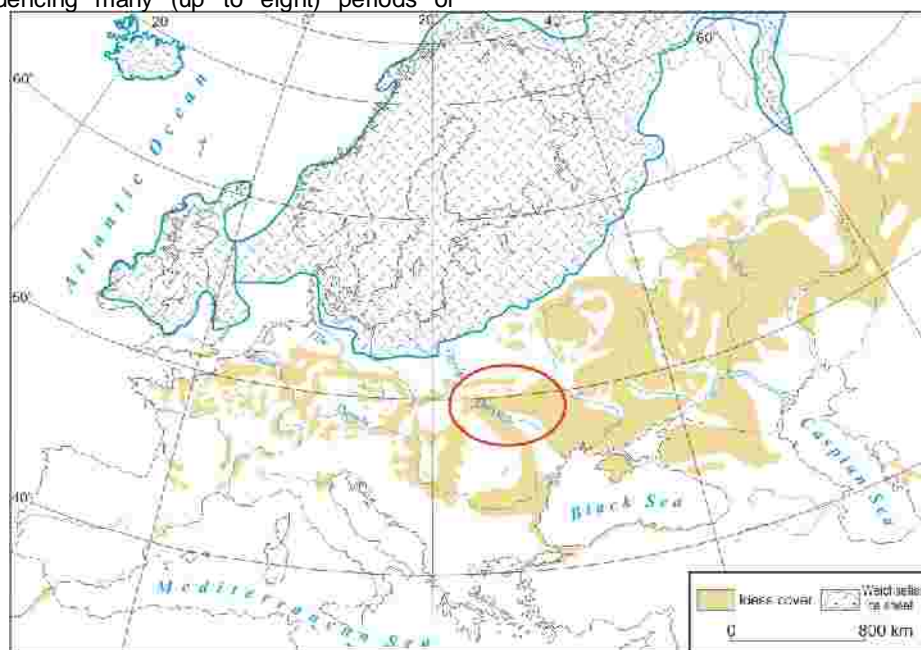


Fig. 1. Distribution of loess covers in Europe against a background of the maximum extent of the last Scandinavian ice-sheet. Area of research is indicated with a red oval.

2. Loess-soil sequences of the last interglacial-glacial cycle and their significance for reconstruction of short-lived climatic changes

Loess-soil formations representing the last interglacial-glacial cycle are excellently developed on the low terraces in the river valleys of the East Carpathian Foreland, and also on the watersheds of the Podolia and Volhynia Uplands. The unique loess records from the Kolodiiv site provide key information for the comparison of the European loess stratigraphy. They represent a sedimentary sequence, in which climatic changes during last 120 ka seem to have been recorded. The whole sequence is essentially continuous and has a last interglacial soil or organic deposits at the bottom. The record of regional environmental changes during OIS 5 and OIS 3 is especially detailed and complete in comparison with loess sections of the Dnieper Plain. Systematic palynological analyses of the loess-soil sequences in several sections provides with information on natural conditions in the OIS

5-2 period and their variability from the east to west in a larger area (between the Vistula and the Dnieper rivers). Results of mineralogical analyses (composition of heavy and light mineral fractions) indicates that in a vast area (between the Dnieper and Desna rivers in the east, the Vistula River in the west, and the Black Sea in the south) the winds blowing from the western sector were predominant during the Upper Pleniglacial. These statements were independently confirmed for the Volhynia Upland by the results of palaeomagnetic investigations.

3. Loesses and terraces

We attach a lot of weight to the examination of loess covers on the Pleistocene terraces where they form wide shelves (5) in deep valleys of the Dniester River and its tributaries, and act as watershed zones at present (2). Each terrace is overlain by loess cover with exactly corresponding sequence of loess beds and palaeosols, and small differences result from local conditions.

Altogether, terrace loesses in the Dniester River basin contain stratigraphic units of the whole glacial and partially also of the pre-glacial Pleistocene. The possibility of examination in exposures of complete geological profiles with very old superimposed deposits of fluvial and aeolian accumulation gives a real basis for reconstruction of climate and environmental changes that occurred in the

Podolian and Pridnistrov'ja region during deposition, and also for studies of the old, pre-ravine stage of the development of primary river network. Such non-arranged in channels, chaotic flow systems are a geological secret concerning not only the Dniester River but having a wider, global significance.



Fig. 2. Discussion of the section at Skala Podil'ska during the 16th Polish-Ukrainian Field Seminar "The oldest loesses of the Podolia and Pokuttia: problems of origin, stratigraphy and palaeogeography" (September 2009). In the first row (from left): M. Lanczont, Z. Jary, L. Marks, A. Bogucki, L. Lindner (Photo P. Mroczek).

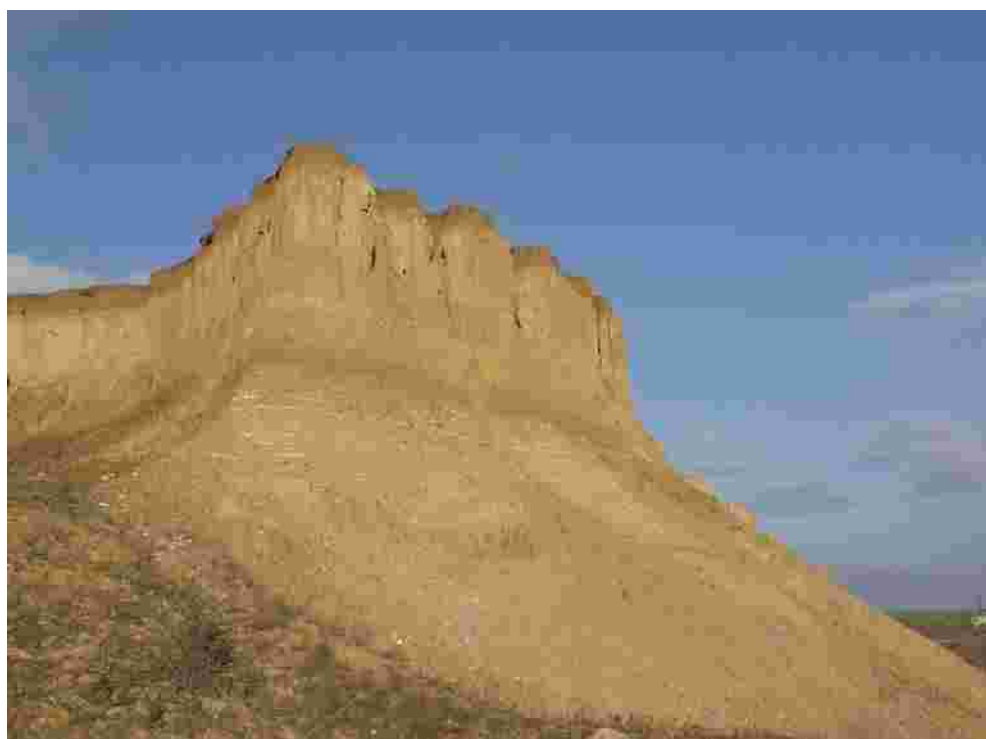


Fig. 3. Skala Podil'ska loess section (Photo M. Lanczont)

4. Loesses and karst

Pokuttia is the separate loess region. Loess cover on the high terraces in the Prut River basin was probably formed during less intensive dust deposition and more intensive denudation as is evidenced by its small thickness and strongly denuded palaeosols. Geological substratum is composed of the Badenian karstified gypsum rocks. Former karst processes of high dynamics resulted in the formation of substratum depressions (karst dolines) in which loess-soil cover is broken and distinctly younger "inserted" loess units occur. This fact gives us new research opportunities for indirect dating of karst processes in the region. This is also a chance to examine younger loess units that are usually not preserved on high terraces.

5. Loesses and Palaeolithic

The western part of Ukraine is characterized by upland diversified relief, varied landscapes, and well developed river network. In Pleistocene this diversity was very distinct and variable in time, and was expressed by changing occurrence of tundra, steppe, forest-steppe and forest biotopes. Such conditions, together with easy access to high quality flint resources, favoured prehistoric settlement. Primitive hunters used river valleys with terraces and promontories protruding towards the rivers, which were excellent observation points with a vast view over the surroundings. Due to these environmental features the settlement probably survived in this area even in the periods when the Scandinavian ice-sheets occupied the areas further to the north. Numerous traces of the Palaeolithic people existence are recorded in loess sections, especially in the Dniester River valley and in the Podolia, and multi-layer nature of many sites indicates that the region was almost "permanently" (in geological scale) settled, at least since the late Middle Pleistocene. The complex investigations of loess-soil sequences and the Palaeolithic sites enable us to define the position of cultural layers within climatostratigraphic and chronostratigraphic units of the Pleistocene, to establish chronostratigraphy of the Palaeolithic in the western part of Ukraine, to analyse in detail the changes and environmental conditions of the Palaeolithic people settlement and hunting, to describe development of the Palaeolithic cultures, and to reconstruct the migration routes. During the investigations of the Palaeolithic sites we encounter different disturbing features such as denudation, deluvial-solifluction and cryogenic processes, thus resulting in displacement of artefacts. We should also take into account that palaeorelief has been at first very complicated and considerably different from the modern one.

Maria Lanczont, Vice-chairman of the Committee for Quaternary Research of the Polish Academy of Sciences and chairman of the Loess Commission of the Committee for Quaternary Research

Portugal



GTPEQ
SGP

Grupo De Trabalho Português Para O Estudo Do Quaternário (GTPEQ), Sociedade Geológica De Portugal

Report from Filomena Diniz fdiniz@fc.ul.pt

Portugal became a member of INQUA in 1982 (XI INQUA Congress).

There are no changes in Portugal Committee, whose President is Filomena Diniz, MNHN - Mineralogia e Geologia, Universidade de Lisboa, Portugal, e-mail: fdiniz@fc.ul.pt

The Geological Society of Portugal home page (<http://www.socgeol.org>) provides the access by the Portuguese scientific community to the INQUA web site; at the same home page it is possible to access GTPEQ "Grupos" activities (<http://www.socgeol.org/groups/2>). At the same site associate members of SGP have the possibility to access to all the abstracts of the Iberian Quaternary Meetings (I to VII), available in pdf.

Meetings / Workshops:

- VII REQUI (VII Iberian Quaternary Meeting) – The future of the Iberian environment – lessons from the recent geological past – Faro, Portugal 05-08 October 2009. Thanks to a joint decision of Grupo de Trabalho Português Para o Estudo do Quaternário (GTPEQ) and the Asociación Española para el Estudio del Cuaternario (AEQUA), this meeting was organized by Centro de Investigação Marinha e Ambiental (CIMA) of Algarve University, as part as an International Year of Planet Earth event. An Abstract book and a field trip guide have been published.

- Fifth International Meeting – Faro, Portugal 27th October – 1st November 2008. Joint Meeting of the International Geoscience Programme Project 495- Quaternary Land-Ocean Interactions: Driving Mechanisms and Coastal Responses and the INQUA Commission on Coastal and Marine Processes. This meeting was organized by Centro de Investigação Marinha e Ambiental (CIMA) of Algarve University. You can find details in <http://www.geography.dur.ac.uk/Projects/PreviousMeeting/IGCP495InternationalConferences/5thInternationalConferencePortugal08/ConferenceReport/tabid/3286/Default.aspx>

- 4th ESF MedCLIVAR Workshop on "Feedbacks of the Mediterranean Dynamics in the Global Climate System" – Sesimbra, Portugal 28-30 September 2009. Organizing Committee: http://www.medclivar.eu/4_workshop/workshop.html.

- 1st METECH Workshop- "From deep-sea to coastal zones: Methods and Techniques for studying paleoenvironments" - Faro, Portugal 25th to 29th February 2008. <http://www.cima.ualg.pt/metech1/HomeMetech1.htm> For any further information please contact Filomena Diniz fdiniz@fc.ul.pt

Serbia

Report from Slobodan B. Markovic slobodan.markovic@dgt.uns.ac.rs

International Conference on Loess Research "LOESSFEST'09" 31st August – 3rd September 2009, Novi Sad, Serbia.

Organizers: Slobodan B. Markovic (a), Ian Smalley (b), Ken O'Hara-Dhand (b), Djordjije Vasiljevic (a). (a) University of Novi Sad, Novi Sad, Serbia. (b) Nottingham Trent University, Nottingham, UK.

LOESSFEST'09 was organised by the INQUA Loess community and the Chair of Physical Geography, Faculty of Sciences, University of Novi Sad. It was planned to keep the similar concept from previous Loessfest held in Bonn and Heidelberg in 1999 and organized by Edward Derbyshire, Ian Smalley, and Ludwig Zöller, which was probably the best ever organized international conference related to loess research (Derbyshire (ed.), 2001a, 2001b).

The task of this LOESSFEST was to continue tradition and again bring together the most relevant loess researchers worldwide and to open loess investigations for much wider scientific community. In addition, one of the objectives was to motivate participants from developing countries and encourage young researchers to take part.

The aim of this conference was to consider all actual, and promote potential, aspects of loess research. Besides

traditional loess themes, this conference focused on links between past and present dust dynamics and human society in the context of geological, archaeological and historical timescale. The most important conference topics were: understanding climatic and environmental changes recorded in widespread loess–palaeosol sequences giving the opportunity for spatial and temporal reconstructions of climatic and environmental changes on local, regional, and continental scale. Special attention was paid to loess and dust deposition models, loess typology, mapping loess distribution, and loess landscape evolution and dynamics.

LOESSFEST'09 was attended by 103 participants from 17 different countries. The program of the conference was divided into 10 sessions, including a Plenary Session. These sessions were scheduled through two full-day presentations and one morning session which was held on the third day of the conference, before the first conference field trip. In all 100 papers were presented.



The Loessfest09 participants at the Mošorin-Feudvar loess section.

Beside presentations, there were two days designated for fieldtrips to the most important loess sections in the Vojvodina region. The first fieldtrip day was designed for visiting loess sections of the Titel Loess Plateau and the valuable historic heritage Petrovaradin Fortress, while the second day was reserved for loess sections in Ruma, Surduk, Batajnica and Stari Slankamen. On these excursions participants had the opportunity to experience some of the oldest and most complete loess sections in Europe (e.g. Markovic et al., 2008, 2009), to take test-samples and also arrange some future collaborative investigations of this region.

One of the innovative topics related to identification, conservation and promotion of the loess geo-heritage.

In all, there were many useful conclusions reached after the conference that would certainly improve and develop further loess research in the world. LOESSFEST'09 will also result in special editions of journals: *Quaternary International*, *Proceedings of the Geologist Association* and *Central European Journal of Geosciences*. It is also determined that next INQUA Loess Research Group conference will be held in Pécs, Hungary, late August/early September 2010.

Detailed agenda and summaries of all oral and poster presentations were published in an Abstract book (circulation of 300 copies; distributed to all participants and relevant institutions) and also on the web site <http://www.inqua-loess.org>.

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Southern Africa



Report from Margaret Avery mavery@iziko.org.za

The Southern African Society for Quaternary Research (SASQUA) held its biennial meeting in the very scenic setting of Knysna on the south coast during September. Peter Holmes (University of the Free State) and Lynn Quick (University of Cape Town) were mainly responsible for a well-run conference. There was a good mix of older, younger, local and overseas participants. Among the latter was Prof. Kim Donner, an Honorary Member of INQUA from Helsinki, who has made many trips to South Africa but not recently. Also present was Tim Partridge on what turned out to be his last SASQUA conference; it won't be the same without him next time.

Sessions ranged from the Southwestern Cape (very local) to East Africa and the Middle East, from geology to palynology and vertebrate palaeoecology. A session was devoted to the major archaeological project under way at nearby Pinnacle Point, which is led by Curtis Marean (Arizona State University).

Poster sessions have increased in size and improved in quality over the last few years. This one again proved a useful vehicle for students to showcase ongoing projects and solicit input. As was pointed out, it is also a good way of ensuring that students come back next time to report their results!

Inclusion of a public lecture has become standard, though not always well patronised. However, on this occasion the very good public turnout was rewarded by Mark Bateman (University of Sheffield), who talked on the local dune-fields.

Website: <http://www.sasqua.co.za/>

Spain

Report from Cari Zazo mcnzc65@mncn.csic.es

INQUA Spanish National Committee

On the occasion of celebrating the Vth INQUA International Congress held in Madrid in 1957, some

Spanish scientists engaged with its organization formed the nucleus of a working group which, in 1972 became the Spanish Working Group on Quaternary (GTEQ). Later, an informal INQUA Spanish National Committee led by Prof. Emiliano Aguirre (Honorary Member of INQUA) was created. In 1985, the GTEQ underwent an in-depth reconstruction and was renamed the Spanish Association for Quaternary Research (AEQUA), that maintains a close collaboration with the INQUA Committee.

In 2005 INQUA was ratified as a Member of the International Council for Sciences (ICSU), and the INQUA Spanish National Committee was officially created by the Spanish Ministry of Science and Education through the Spanish ICSU Commission. The main objective of the Committee is to promote active participation in INQUA.

The INQUA Committee is formed of 5 (minimum) to 10 (maximum) members selected by the ICSU Spanish Commission from amongst scientists nominated by the permanent Commission. All nominees must be deeply involved in Quaternary research. Participation in the Committee is voluntary. The present composition is:

President: Cari Zazo mcnzc65@mncn.csic.es. Advisor, CMP Com.

Secretary: Teresa Bardaji teresa.bardaji@uah.es. Leader, CMP IFG Long term sea level changes.

Members:

Gerardo Benito benito@ccma.csic.es. Leader, TERPRO IFG Hydrology and climate change

Isabel Cacho icacho@ub.edu Vice President CMP Com.

Yolanda Fernandez Jalvo yfj@mncn.csic.es. Corresponding member, HABCOM

Jose Luis Goy: joselgoy@usal.es Corresponding member, CMP Com

Alfredo Perez Gonzalez alfredo.perez@cenieh.es

Lhotar Schulte schulte@ub.edu Corresponding member, HABCOM

Pablo G. Silva: pgsilva@usal.es Vice President, TERPRO IFG Paleoseismology and Active Tectonics

Blas Valero: blas@ipe.csic.es Corresponding member, PALCOMM

The INQUA Spanish National Committee uses the AEQUA web page (<http://tierra.rediris.es/aequa>)

Finances

INQUA fees are paid by the ICSU Spanish Commission (Since 1996 Spain is a Category II INQUA Member).

Some additional financial support is obtained by means of annual calls for proposals launched by ICSU Spanish Commission (Subprogram - International Complementary Actions: ACI Committees). In 2009 two proposals from the Committee were granted (Announcements in 2008):

1. Responsible: P.G. Silva. Title: INQUA-IGCP567- "1st International Workshop on Earthquake Archaeology and Paleoseismology"- (Bolonia – Cadiz, Spain, 7-13 September, 2009). TERPRO Com.
2. Responsible: G. Benito. Title: "International INQUA Council Hydrological Change and climate". TERPRO Com.

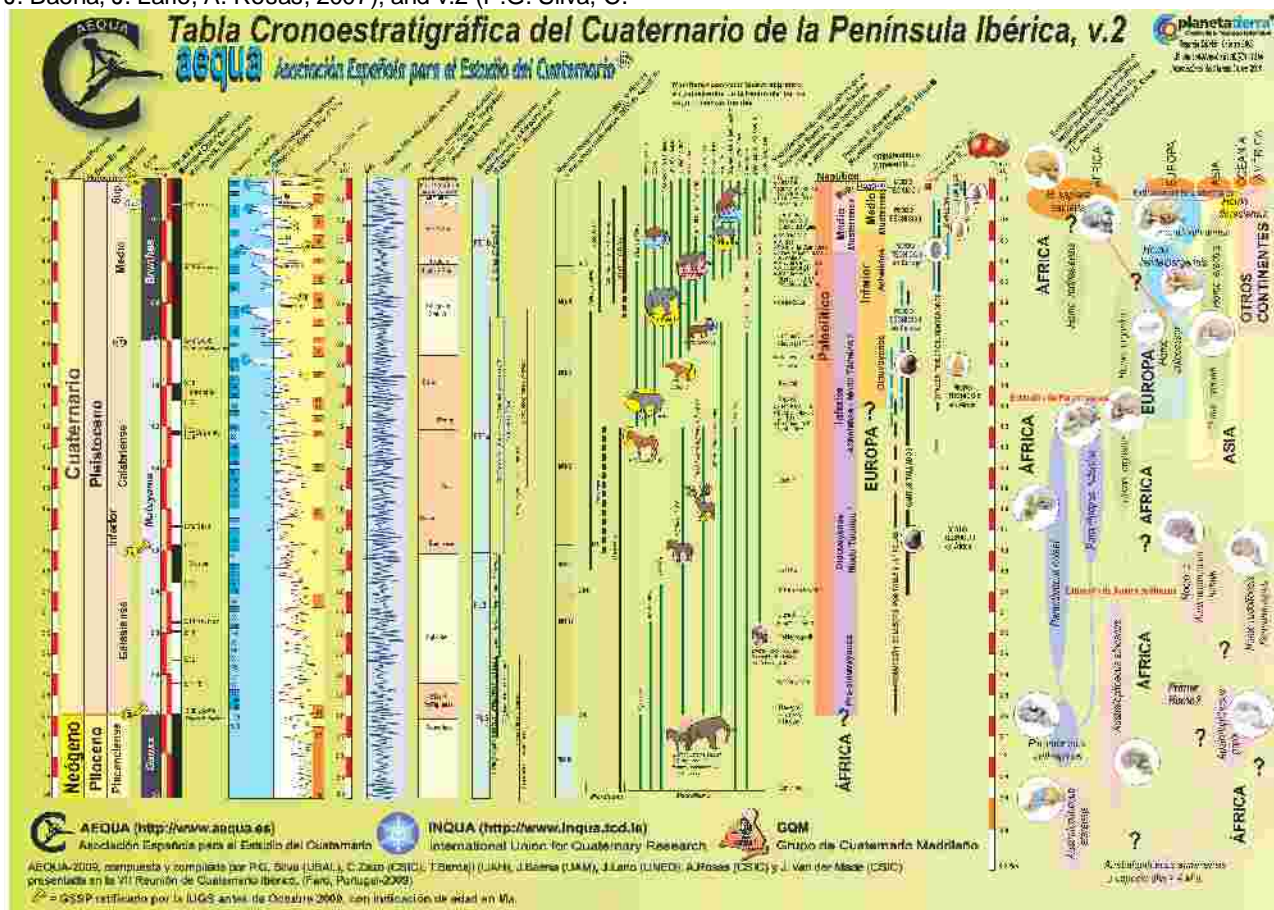
INQUA Projects

Leader: T. Bardaji. Title: INQUA-Project 0911 – Decoding the Last Interglacial in Western Mediterranean. INQUA-CMP Com. *Kick-off Meeting- VII Quaternary Iberian Meeting: Faro-Portugal (October-2009)*.

Main Activity

The Spanish National Committee has been deeply involved in "Quaternary Status" ratification. (*Tabla Cronológica del Cuaternario Ibérico* v.1 (P.G. Silva, C. Zazo, T. Bardaji, J. Baena, J. Lario, A. Rosas, 2007); and v.2 (P.G. Silva, C.

Zazo, T. Bardaji, J. Baena, J. Lario, A. Rosas, J. van der Made, 2009), presented during the VII Quaternary Iberian Meeting: Faro-Portugal (October-2009). Contact Cari Zazo mncz65@mncn.csic.es for more details on this project.



Ukraine

Report from Natalia Gerasimenko n.garnet2@gmail.com

INQUA National Committee of Ukraine

Gozhik Petro F. (Head of the Committee), National Academy of Sciences of Ukraine, Kyiv, dir@igs-nas.org.ua

Adamenko Oleg M., State Technical Oil and Gas University of Ivano-Frankiv'sk, Ivano-Frankiv'sk, adolmak@ifdtung.if.ua

Bakmutov Volodymyr G., National Academy of Sciences of Ukraine, Kyiv, bakhm@igph.kiev.ua

Bezus'ko Lyudmyla G., National Academy of Sciences of Ukraine, Kyiv, bezusko@ukma.kiev.ua

Bogutsky Andriy B., Ivan Franko National University of L'viv, L'viv, n_prycjuk@ukr.net

Bondar Olexandr P., Donetsk State Regional Geological Survey, Artemivsk, tel.: 806274 696532

Chabai Viktor P., National Academy of Science of Ukraine, Simferopol, chabai@svitonline.com

Dykan' Natalia I., National Academy of Sciences of Ukraine, Kyiv, natadykan@mail.ru

Gerasimenko Natalia P. (Scientific Secretary), Taras Shevchenko National University of Kyiv, Kyiv, geras@gu.kiev.ua

Ivanov Viktor G., Prichernomorsk State Regional Geological Survey Odessa, pgrgp@ukr.net

Inozemtsev Yuriy I., National Academy of Science of Ukraine, Kyiv, naumenko@geolog.kiev.ua, nikalmas@mail.ru

Kakaranza Sergey D., Prichernomorsk State Regional Geological Survey Odessa, kakaranza@yahoo.com

Khristoforova Tatiana F., National Academy of Sciences of Ukraine, Kyiv, natadykan@mail.ru

Konikov Eugeniy G., Odessa Mechnikov' National University, Odessa, konikov@mail.ru

Korol Bogdan I., State Geological Survey of Ukraine, Simferopol, geotem@mail.ru

Koulakovska Larissa V., National Academy of Sciences of Ukraine, Kyiv, laros@i.kiev.ua

Kovalyukh Mykola M., National Academy of Sciences of Ukraine, Kyiv, psrtl@rumbler.ru

Larchenkov Evgeny P., Odessa Mechnikov' National University, Odessa, larchenkov@onu.edu.ua, elarch46@yandex.ru

Matviishina Zhanna M., National Academy of Sciences of Ukraine, Kyiv, karmazinenko@mail.ru

Rekovets Leonid I., National Academy of Sciences of Ukraine, Kyiv, leonid.rekovets@up.wroc.pl

Shelkopylas Volodymyr M., National Academy of Sciences of Ukraine, Kyiv, natadykan@mail.ru

Smyntyna, Olena V., Odessa I.I. Mechnikov National University, Odessa, smyntyna_olena@onu.edu.ua

Veklich Yuriy M., Geological Survey of Ukraine, Kyiv, veklich_um@ukr.net

Vozgrin Boris D. Geological Survey of Ukraine, Kyiv, gk200@ukr.net

Zaleskiy Ivan I. National University of Nature Resources and Management, Rivne, iwzales@rumbler.ru

United Kingdom



Report from David Anderson (QRA Outreach and External Liaison) d.anderson@etoncollege.org.uk

The Quaternary Research Association (QRA) started in 1964 as the Quaternary Field Study Group, changing its name to the QRA in 1968. There are over 1000 members of the QRA drawn mainly from the UK, but also from overseas. The *Journal of Quaternary Science* is its international journal, and the QRA produces a range of other publications related to its various activities and the research interests of its members. These include the *Quaternary Newsletter*, the *Circular*, the *Field Guide* series and the *Technical Guide* series. The QRA has, for many years, advanced Quaternary research in the UK and abroad through its awards and grant schemes, as well as by recognising important contributions to the field through its prizes and honorary memberships. More recently, the QRA has sought to build up its outreach activities to raise awareness among the public of the value of Quaternary research and to strengthen links with other academic and non-academic organisations. The QRA is affiliated with both the Geological Society of London and The Royal Geographical Society-Institute of British Geographers, and is the UK national corresponding body to INQUA.

Recent developments

A major development over the past year has been the production of a new website for the Association (www.qra.org.uk) which was introduced to the membership at the Annual General Meeting in Oxford in January 2009. The front page of the site contains news and short-cuts to pages that are most often visited, and the architecture of the site makes it easy to find information and/or to download application forms for prizes and grants. From 2010 the *Circular* (the QRA's information leaflet sent with the *Quaternary Newsletter*) will become a slimmer document, with much of the previous content to be disseminated via the website only. In future, it is also planned to make past issues of *Quaternary Newsletter*, as well as an archive of *Field Guides* and *Technical Guides*, available to view or download from the website.

In addition to containing the key information relating to meetings, research group sponsorship, publications, and awards, the site contains much that is of benefit to postgraduate students – including information on postgrad training opportunities, studentships, and a postgrad blog. The Outreach pages (which are continuing to be developed) contain information and links of interest for students, teachers, and lay people; downloadable educational resources; and a record of educational initiatives by other groups that the QRA has part-funded.

In tandem with the process of designing the new website, a new logo was developed which is also used on the re-

designed cover of *JQS* as well as on other QRA publications.

This year has also seen the development of a new award – the James Croll Medal – to recognise those who have made major contributions to the advancement of Quaternary science over a distinguished career. It plays the role of a more senior award in comparison with the existing Lewis Penny Medal for distinguished young researchers. It is planned to award the first James Croll Medal at the Annual Discussion Meeting in Liverpool in January 2011.

Reports of meetings and research projects

The 2009 Annual Discussion Meeting on “The human dimension in rapid environmental change” was held at Oxford University (St Anne's College), organised by Simon Blockley and colleagues at the Research Laboratory for Archaeology and the History of Art. The meeting included a stimulating and thought provoking range of presentations and posters covering the relationship between people and the environment from the early phases of hominin evolution and dispersal through to more recent events in modern human prehistory and history.

The QRA Field Meeting in the spring of 2009 focused on the Solent River and Hampshire Basin. Organised by Becky Briant and Martin Bates and based at Southampton, the field meeting explored, among other things, Sussex raised beaches, MIS 5e interglacial deposits, artefacts and fossilised bones from Boxgrove, tripartite Late Glacial deposits on the Isle of Wight, middle Pleistocene river gravel sequences at Barton-on-Sea, and evidence for Solent River terraces at Lepe Country Park. Stemming from this meeting, the QRA also funded an outreach leaflet and student activity on evidence for past environmental change at Lepe (written by Becky Briant) which is available at the park office and can be downloaded from the outreach part of the QRA website.

The final day of the fieldtrip was devoted to looking at evidence for Holocene human activity in the New Forest in honour of Keith Barber who led the 1987 QRA trip to the area, and who retires at the end of 2009 after a distinguished career.

There are two research groups currently being supported by the QRA: the isotopes in biogenic silica group (IBIS) and the Quaternary vertebrates group (QUAVER). Further details of these groups and contact information can be accessed through the research pages of the QRA website.

Upcoming meetings

The 2010 Annual Discussion Meeting titled “Sea-Level Changes: the Science of a Changing World” is being organised by Ian Shennan and colleagues and will be hosted at Durham University from Tuesday, 5 January to Friday, 8 January. The four themed sessions will include:

- Modelling sea-level change: global to local scales
- Quaternary sea-level change, past people and their environments
- Resolving ice-sheet and sea-level interactions
- Sea-level change 2000 BP to 2100 AD

More information can be found at the following site: <http://www.geography.dur.ac.uk/conf/sealevelchanges>

Upcoming field meetings include a visit to the NW Highlands of Scotland in April/May 2010 and a visit to the Solway Firth in September 2010.

The 15th QRA Postgraduate Symposium will be held at the University of Exeter from the 25th to 27th of August 2010.

Recent and upcoming publications

Special publications arising from the 2008 Annual Discussion Meeting are either complete or nearing completion. This ADM, titled "Quaternary of the British Isles and Adjacent Seas" was organised jointly between the QRA and the RGS-IBG (and held at the RGS in London). The meeting marked the 40th anniversary of the QRA, as well as about 30 years since the publication of Shotton's edited volume *British Quaternary Studies, Recent Advances* which coincided with the 10th INQUA Congress held in Birmingham. The meeting was seen as an opportunity to review the progress made in research on the British Quaternary record since Shotton's landmark volume and to explore current and future research directions. Articles stemming from this ADM appear (or will appear soon) in special Issues of the following journals:

- § *Quaternary Science Reviews* (mainly on climate variability of the British Isles and surrounding seas), now published online but not yet in print
- § *Journal of Quaternary Science* (mainly on British Quaternary stratigraphy and landscape change) to appear soon
- § *Proceedings of the Geologists Association*, Volume 120, Issue 4, Quaternary Geology of the British Isles, Part 1 (Bridgland and Golledge, Eds.)
- § *Journal of Maps* (various Quaternary maps of the British Isles), v2008, pp. 290-416
- § QRA Field Guides published in 2009 include:
 - § The Quaternary of the Trent Valley & Adjoining Regions (White *et al.*)
 - § The Quaternary of the Solent Basin & West Sussex Raised Beaches (Briant *et al.*)

Details of how to order these, and other field and technical guides, are contained in the publications pages of the QRA website.

The current QRA Executive Committee

The full QRA Executive Committee (consisting of 17 members) meets twice a year, and there are additional sub-committee meetings during which specific aspects of the QRA's activities are discussed and prepared in advance of full executive meetings. An Annual General Meeting for the entire association is held once a year, on an evening that coincides with the Annual Discussion Meeting held each January. The major post holders of the QRA from January 2010 are as follows:

- President: Prof. J.D. Scourse (Bangor University)
- Vice-President: Dr D. Evans (Durham University)
- Secretary: Dr P. Langdon (University of Southampton)
- Publications Secretary: Dr I. Candy (University of London, Royal Holloway)
- Treasurer: Dr P. Allen
- Quaternary Newsletter* Editor: Dr M.D. Bateman (University of Sheffield)
- Journal of Quaternary Science*, Editor: Prof. A. Long (Durham University)
- Publicity Officer: Dr F. Marret (University of Liverpool)

Contact details for all current members of the QRA Executive Committee are contained on the QRA website. The QRA welcomes new members, and details of how to join (along with downloadable application forms) are also accessible from the website.

Western Africa

Report from Izuchukwu Mike Akaegbobi
izumike20022002@yahoo.com



Participants at the inaugural meeting of the Western African Quaternary Association, Ibadan, October 2009

There was a general meeting of all participants immediately after the technical sessions of the First International Workshop of West African Quaternary Research Scientists (INQUA Project 0904). The House,

among other issues, deliberated on membership of WAQUA and its constitution, elected office bearers for the newly established West African Quaternary Research Association (WAQUA) and fixed the venue and proposed

date for the next WAQUA Workshop. During the meeting, priorities were set for action and four working groups were formed for implementation.

It was agreed that:

- § Membership should be open to all scientists working in the area of Quaternary palaeosciences, palaeontology and archaeology in West Africa and in all the discipline as listed in section 2 of the minutes of the inaugural meeting of WAQUA. Consultation, linkages and networking among members and research institutions all over the world would be encouraged.
- § WAQUA should be enhanced and maintained through collaboration among members using locally available laboratory instrumentations and exchange visits and share knowledge to minimize expenses.
- § A WAQUA Secretariat and website should be set up to ensure transparency through circulation of information about the association and amongst members. A comprehensive list of membership and their email addresses should be compiled by the secretariat.
- § All WAQUA information and announcements for now should be posted on INQUA and PAGES websites.

- § An interim committee was set up to run the affairs of WAQUA until general election is conducted. Izuchukwu Mike Akaegbobi (Nigeria) and Ibouraima Yabi (Benin Republic) were nominated and approved as Chairman and Vice Chairman respectively. Other members of the caretaker committee are Mr. Okuku Archibong Ediang (Secretary), Prof. Luke Okechukwu Anike and Mrs. Nkiru Meludu.
- § WAQUA constitution should be drafted and patterned after the EAQUA constitution, which will be made available to the WAQUA interim committee. The draft constitution will be considered and rectified in the next meeting when membership has been realized.
- § Four Working Groups were formed to brainstorm and arrive at priorities related to Quaternary palaeosciences. The groups are as follows:
 - Lake Sediments as Archives for Palaeoclimatic Changes.
 - Coastal Sea Level Changes.
 - Ecosystem Changes and Livelihood of Human Development
 - Archaeology and Palaeontology

Update on where they are now

Previously, we asked for your help in contacting some of our 'lost' Members. Now we are pleased to report that we have made contact with all but two countries. We hope soon re-establish contact with Greece but the Czech Republic contact remains unconfirmed despite our best efforts. Thank you to all who have helped in the detective work!

Following is the latest list of contacts. If there are any further changes or updates, please email Secretary General Peter Coxon pcoxon@tcd.ie and Editor Margaret Avery mavery@iziko.org.za with details.

Country	Name	Email
Argentina	Jorge Sanabria	jorgesanab@yahoo.com.ar
Australia	Craig Sloss	secretary@aqu.org.au
Austria	Jürgen Reitner	juergen.reitner@geologie.ac.at
Belarus	Valentina Zernitskaya	vzern@nature.basnet.by
Belgium	Marie-France Loutre	marie-france.loutre@uclouvain.be
Brazil	Rodolfo Angulo, Michel Michaelovitch de Mahiques	angulo@ufpr.br ; mahiques@usp.br
Canada	Vic Levson	Vic.Levson@gems9.gov.bc.ca
China	Liu Jiaqi	liujq@mail.iccas.ac.cn
Chinese Taipei	Kuo-Yen Wei	weiky@ntu.edu.tw
Colombia	Thomas van der Hammen	anamalo26@yahoo.com
Croatia	Ljerka Marjanac	ljerka@hazu.hr
Czech Republic	Daniel Nyvlt (unconfirmed)	daniel.nyvlt@geology.cz
Denmark	Ole Bennike	obe@geus.dk
Eastern Africa	Julius Lejju	lejju2002@yahoo.co.uk
Egypt	Fouad F. Shaaban	ffas60@yahoo.com
Estonia	Volli Kalm	volli.kalm@ut.ee
Finland	Antti Ojala	antti.ojala@gtk.fi
France	Frédéric Lacombat	flacombat@gmail.com
Georgia	Alexander Muskhelishvili	paleoalex56@yahoo.com
Germany	Margot Böse	mboese@geog.fu-berlin.de
Greece	(to come)	
Hungary	Annamária Nádor	nador@mafi.hu
India	Ashok Singhvi	singhvi@prl.res.in
Indonesia	Edy Sunardi	edysunardi@unpad.ac.id
Ireland	Stephen McCarron	stephen.mccarron@nuim.ie
Israel	Yehuda Enzel	enzel@vms.huji.ac.il
Italy	Cesare Ravazzi	cesare.ravazzi@idpa.cnr.it
Japan	Koji Okumura	kojiok@hiroshima-u.ac.jp
Korea	Ju Yong Kim	kjy@kigam.re.kr
Latvia	Vitalijs Zelchs	vitalijs.zelchs@lu.lv
Lithuania	Petras Sinkunas	sinkunas@geo.lt
Mexico	Socorro Lozano-García	mslozano@servidor.unam.mx
Mozambique	Fatima J. Momade	fatima.momade@mirem.gov.mz
Netherlands	Wim Hoek	w.hoek@geo.uu.nl

New Zealand	Alan Palmer; David Lowe	a.s.palmer@massey.ac.nz ; d.lowe@waikato.ac.nz
Norway	Eiliv Larsen	eiliv.larsen@ngu.no
Poland	Leszek Marks	leszek.marks@pgi.gov.pl ; Imar@pgi.gov.pl
Portugal	Filomena Diniz	fdiniz@fc.ul.pt
Russia	Andrei Velichko	paleo@online.ru
Serbia	Slobodan Markovic	zbir@im.ns.ac.yu
South Africa	Greg Botha	gabotha@geoscience.org.za
Spain	Cari Zazo, Teresa Bardaji	mcnzc65@mncn.csic.es ; teresa.bardaji@uah.es
Sweden	Geoffrey Lemdahl, Dan Hammerlund	geoffrey.lemdahl@hik.se ; dan.hammarlund@geol.lu.se
Switzerland	Frank Preusser	preusser@geo.unibe.ch
UK	David Anderson	d.anderson@etoncollege.org.uk
Ukraine	Natalia Gerasimenko	n.garnet2@gmail.com
USA	Allan Ashworth	allan.ashworth@ndsu.edu



Forthcoming Conferences

February 2010

1. International Glaciological Conference: "Ice and Climate Change: A View from the South" (VICC 2010), Valdivia, Chile, 1-3 February 2010. See <http://www.cecs.cl/VICC2010/> for further details.

2. Controversies in the Quaternary of the Southern Hemisphere (PASH 2), Scientific Session of Southern-Connections VI, 15-19 February 2010, Bariloche, Argentina

Convenors/Guest Editors:

Peter Kershaw peter.kershaw@arts.monash.edu.au

Jan-Berend Stuut jbstuut@marum.de

Marcus Vandergoes m.vandergoes@gns.cri.nz

Below are listed some potential themes that have emerged from previous meetings. These are provided as a guide only with papers welcome that cover all or a component of these themes or other topics. Papers will be both invited and unsolicited.

- § Climate evolution of the Southern-Hemisphere Deserts;
- § Controversial climate patterns like e.g.,
 - the Mid Holocene Climatic Optimum or Thermal Maximum;
 - timing of events around the LGM;
 - geographical extent and nature of the YD;
 - latitudinal trends.
- § Forcing and extent of the Southern Westerlies;
- § Development of the Southern Westerlies;
- § Patterns of change in monsoon systems and ENSO;
- § Initial Colonisation of South America;
- § Timing and causes of megafaunal extinction, particularly in Australia;
- § Human evolution and climate change in Southern Africa;
- § Forcing of lake levels in Australia, the Andes and Central/Southern Africa;
- § Degree of Antarctic forcing;
- § Modelling of distinct southern-hemisphere environmental changes;
- § Regional patterns and causes of Holocene intensification of human settlement;
- § Agricultural origins and development in the southern Hemisphere.

The Special Issue of *Quaternary International*. To ensure timely publication of the special volume, everybody is requested to submit their manuscripts shortly before or during the meeting. Please let one of us know, when you submit your abstract whether you will be contributing to the issue. It is anticipated that some papers, solicited or unsolicited, will be from those who feel that the Congress as a whole is somewhat peripheral to their interests, to ensure a balanced and impressive issue.

Deadlines/Milestones:

Congress: SC2010

§ Early-bird registration for the conference closed on 15 June 2009; but

§ Standard registration is open until 30 December 2009;

§ Abstracts are due by 2 October 2009.

Please visit www.sccongress2010.com.ar for further congress details.

Special volume of *QI*

§ Confirmation to write a paper before 30 June 2009;

§ Abstract and title before 2 October 2009;

§ Full manuscript before 1 March 2010.

Please visit www.elsevier.com/locate/quaint for detailed information on manuscript requirements

Further information is available on the PASH2 webpage <http://users.monash.edu.au/~pkershaw/> or email on of the convenors.

April 2010

Virtual workshops in Second Life. An INQUA Project 0909 INTIMATE workshop is to be held in April 2010 in Copenhagen.

Application to be made to national funding sources (including the Carlsberg Foundation) and EU for support. This work will be supported by a virtual online centre hosted on Second Life™ which will allow INTIMATE members (including those in the Australasian INTIMATE Project) to interact regularly with a minimal environmental impact.

Further information from Chris Turney

c.turney@exeter.ac.uk

May 2010

1. European Geosciences Union (EGU) Session NH8.2 Geomorphology and hazards in karst area, Vienna, Austria, 02 - 07 May 2010.

<http://meetings.copernicus.org/egu2010/>

Convenor: Mario Parise (National Research Council of Italy, m.parise@ba.irpi.cnr.it)

Co-convenors: Francisco Gutierrez (University of Zaragoza, Spain), Jo De Waele (University of Bologna, Italy), Lukas Plan (National History Museum, Vienna, Austria)

The deadline for abstract submission is 18 January 2010.

On behalf of my co-conveners I encourage you to submit abstracts to this session devoted to geomorphology and hazards in karst areas

http://meetings.copernicus.org/egu2010/abstract_management/how_to_submit_an_abstract.html

Please refer to the following webpage for session summary:

<http://meetingorganizer.copernicus.org/EGU2010/session/2075>

Conference details (travel, venue, costs, etc.) can be found here: <http://meetings.copernicus.org/egu2010/>

Please do not hesitate to contact Mario Parise if you need further information or assistance for submitting an abstract.

2. The International Tephra Meeting (INTAV) "Active tephra in Kyushu, 2010", to be held in Kirishima City (near Kagoshima) on southern Kyushu Island, Japan, from 9-17 May, 2010.

The second circular, which lists deadlines and costs and other information, is now available at <http://www.ris.ac.jp/intav-jp/index.html>. Also see page 11 above for further information.

3. Joint APEX (Arctic Paleoclimate and EXtremes)/MOCA workshop on Arctic paleoclimate proxies and chronologies (Marine, Lacustrine, and Terrestrial (including landforms). 26th to 30th May 2010 in Iceland.

For further details see the MOCA website <http://www.physics.mun.ca/~lev/MOCA.html> or send a query to Lev Tarasov lev@mun.ca.

July 2010



INQUA Commission on Coastal and Marine Processes (North and West Europe Working Group) Field Meeting: International Conference and Field Trips on Past and Present Land-Ocean Interactions in the Geological Record: Blueprints for the 21st century?
West Sussex Coastal Plain, Arundel (Southern England)
July 4th – 7th, 2010.

This conference will provide a platform for the comparison of geological records of sea-level change within the West Sussex coastal plain extending from the last inter-glacial period to the present day. The conference will include one day of paper presentations and two days of field excursions.

Oral presentations and posters on all aspects of Quaternary coastal changes are welcome. The field trips will include visits to a variety of sites across the coastal plain of West Sussex to consider the record of internationally important Middle-Upper Pleistocene raised beach deposits. A wealth of bio-stratigraphic and geophysical data, coupled with extensive laboratory analyses has revealed important detail regarding the transition from warm inter-glacial conditions to Late Pleistocene colder climates recorded in the sedimentary record. Thereafter, the field visits take us forward through time, to consider the impacts of recent sea-level rise upon coastal development at sites along the contemporary shoreline where new studies are taking place.

This will provide an exciting stimulus for discussion of the linkages between the older coastal deposits and the development of the modern coastal system, and the importance of geological records as blueprints for understanding future coastal evolution.

The conference will be held at the Norfolk Arms Hotel in Arundel West Sussex (<http://www.norfolkarmshotel.com>), less than an hour from London Gatwick Airport (<http://www.arundel.org.uk>).

The Conference fee for the meeting is £400. This includes bed & breakfast accommodation for three nights, conference facilities, a conference program and abstract book, field trips, field trip guidebook, refreshments at coffee and tea breaks, and all meals including a conference dinner.

Abstract: If you would like to offer a paper or poster, please send an abstract via e-mail in Word format to P.A.Teasdale@brighton.ac.uk before April 16th 2010.

Organisers and field-trip leaders

Dr Phillip A Teasdale (University of Brighton).
Prof. Callum R Firth (University of Brighton).
Dr Martin Bates (University of Wales, Lampeter).
Dr Malcolm Bray (University of Portsmouth)

Further details about the conference and field trips will be provided as soon as possible in 2010 on the Brighton University website at <http://www.brighton.ac.uk/set>. For a registration form, returnable by 12th March 2010, please contact Phill Teasdale P.A.Teasdale@brighton.ac.uk

September 2010

1. The next **DEUQUA meeting** from 13-17 September 2010 will be organised by Reinhard Lampe at the University of Greifswald. This DEUQUA conference will be a joint meeting with the INQUA Peribaltic Group, having their own session (in English) as part of the meeting and joining the field trips in the Quaternary landscape of Mecklenburg-Vorpommern as well as at the Baltic Sea coast. Further information from <http://www.deuqua.de>

2. **19th Congress of the Carpathian-Balkan Geological Association (CBGA 2010)**, Thessaloniki, Greece, 23-26 September 2010.

The Organizing Committee of CBGA 2010 has decided to extend the deadline for submission of full papers and early registration, after numerous requests from interested contributors.

CBGA 2010 accepts papers from all disciplines of Earth and Atmospheric sciences. They will be peer reviewed and published by the time of the Congress.

Deadlines:

- § 31 December 2009: New deadline for submitting full papers
- § Early registration (150 Euros).
- § 30 April 2010: Submission of abstracts.
- § 30 April 2010: Regular registration (180 Euros).

For more info, check the CBGA 2010 website at <http://www.cbga2010.org> or contact Executive Secretary Alexandros Chatzipetros, at info@cbga2010.org.

October 2010

GeoDarmstadt, a congress organised by a number of German geo-sciences organisations from 10 – 17 October 2010 in Darmstadt, Germany.

See <http://www.geodarmstadt2010.de/> for further details.

November 2010

INQUA Project 0908 meeting on 'Methods for the study of long-term groundwater dynamic' is planned to take place in Tunisia on November 1-7 2010.

The workshop theme is palaeogroundwater: methods. The meeting will in particular deal with dryland aquifers, where no or insignificant recharge occurs today. Unesco Graphic and IAH Commission on Groundwater and Global Change will take part in the meeting as co-organisers.

Details are not available yet. Local organiser: Kamel Zouari from Tunisia. More information, contact Sylvi Haldorsen sylvi.haldorsen@umb.no

January 2011

"Together in Africa for a leading role in geoscience"

Welcome to: 23rd Colloquium of African Geology
Bienvenue au: 23em Colloque de Géologie Africaine
CAG23 – South Africa 2011
University of Johannesburg | 8 – 14 January

Dr Hassina Mouri
Secretary General, Geological Society of Africa [2008-2012]
Chair, Organising Committee CAG23 – SA2011
Department of Geology | www.uj.ac.za/geology [URL]
University of Johannesburg | South Africa
hmouri@uj.ac.za [email]
www.cag23.co.za

Logos: Geological Society of Africa, University of Johannesburg, necsa, GSSA, and others.

