



Newsletter

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ANNUAL REPORT OF THE INTERNATIONAL ASSOCIATION OF SEDIMENTOLOGISTS

The International Association of Sedimentologists was founded in 1952. Its objectives are the promotion of the study of Sedimentology by publications, discussion, and comparison of research results, by encouraging the interchange of research through international collaboration, and by favouring integration with other disciplines.

Accomplishments in 2004

The IAS held the 23rd IAS Meeting of Sedimentology in Coimbra, Portugal, from September 15 to 17. Some 340 participants represented 36 countries, and six field-trips were run. Furthermore, the IAS co-sponsored conferences and workshops in Argentina, Hungary, Slovakia and Germany.

A lecture tour developed by Prof. Roger G. Walker, from Canada, has been run in Poland and Hungary, reaching several institutions in these countries.

The IAS published 6 issues of its journal *Sedimentology* comprising 1440 pages. *Sedimentology* is accompanied by a Newsletter, and the IAS homepage (<http://www.iasnet.org>) is regularly updated.

The IAS friendship scheme for scientists and libraries in developing countries continues. In 2004, 165 individuals and 36 libraries benefit from it. The new IAS Postgraduate Grant Scheme offered 28 grants, ranging from 850 to 1000 Euros, to young researchers from 15 different countries.

Membership has gently decreased because of the process of online registration, with 1700 members from 97 countries in the year 2004.

Goals for 2005

The 24th IAS Meeting of Sedimentology will be held in Muscat, Oman (10-13 January). The Association will also co-sponsor meetings and workshops in United Kingdom and Argentina. A lecture tour developed by Prof. Maurice E. Tucker, from United Kingdom, will be run in Greece, Turkey, India and South America to reach institutions who could otherwise not afford to invite foreign lecturers.

The IAS International Summer School of Sedimentology will be set up for the first time in Switzerland, by August 2005. This initiative will be addressed to doctoral students interested in palaeoenography, carbonate sedimentology and sedimentary geochemistry.

The journal *Sedimentology* will again appear with 6 issues. Three Special Publications and two Field Guides are in preparation.

We will continue to publish high-quality science, and to organize and sponsor top-level research conferences and meetings. However, we also want to encourage young sedimentologists from countries where research possibilities are less well established, and where funding is lacking. We do this through our friendship and grant schemes, and by paying travel expenses to international congresses and field workshops.

Funding

IAS is funded by membership fees. All officers work for free, and there are no permanent staff or formal headquarters.

José-Pedro Calvo
General Secretary

FINANCIAL REPORT

1.- BALANCE SHEET

	As at June 30, 2004		As at June 30, 2004	
	EUR	EUR	EUR	EUR
<u>FIXED ASSETS</u>				
Tangible assets		6.918,95		1.886,07
<u>CURRENT ASSETS</u>				
Stocks (books/publications)		81.087,77		88.341,34
Receivables				
Prepayments	3.510,00		3.510,00	
Other receivables	<u>20.249,35</u>		<u>89.139,18</u>	
		96.759,35		92.649,18
Liquid assets		<u>1.848.855,53</u>		<u>1.683.536,68</u>
<u>TOTAL ASSETS</u>		<u>2.033.621,60</u>		<u>1.886.413,27</u>
	As at June 30, 2004		As at June 30, 2004	
	EUR	EUR	EUR	EUR
<u>EQUITY</u>				
Reserves	1.664.718,15		1.511.277,00	
Surplus for the year	<u>179.816,99</u>		<u>153.441,15</u>	
		1.844.535,14		1.664.718,15
<u>SHORT TERM DEBTS</u>				
Other debts and prepayments received		<u>189.086,46</u>		<u>201.695,12</u>
<u>TOTAL EQUITY AND LIABILITIES</u>		<u>2.033.621,60</u>		<u>1.866.413,27</u>

IAS LECTURE TOUR

Report by Roger G. Walker

My wife and I flew into Warsaw on Sunday October 10th, and were warmly welcomed by the Deputy Dean of the Geology Faculty, Prof. Ewa Slaby. Our original host and IAS representative, Prof. Anna Wysocka, had just left to do research in Vietnam, and her “second in command”, Prof. Piotr Luczynski, was unfortunately at home nursing an illness and consuming antibiotics! The Deputy Dean, a geochemist, made sure we were well established in a university guest house (very intimate – they had given us a single room by mistake), and made sure we moved into a double room the next night. On the Monday and Tuesday, I gave five lectures to a packed auditorium – probably well over 300 students and faculty, and also had a little time to see parts of Warsaw. On Wednesday, Piotr Luczynski had recovered enough to take us down to the Holy Cross mountains, where we spent a very interesting afternoon working through a succession of shallow marine and shoreline clastics. The night was spent at another University guest house in Krakow. At short notice on Thursday, I gave an unscheduled talk in Krakow, and had a wonderful visit to the museum at the Geological Institute. Prof. Marian Ksiazkiewicz’ collection of trace fossils from the Carpathian Mountains was on display, along with Stan Dzulynski’s magnificent collection of sole marks. I remember seeing many of these in Dzulynski’s publications when I was a graduate student – in the museum, they are well displayed and have excellent explanations of their origins, along with some of Dzulynski’s experimental reconstructions of their formation.

On the Friday, we drove from Krakow into the Carpathian Mountains, with turbidite outcrops in the Magura and Silesian Nappes. On or two are ripe for re-examination, and may make classic examples of channel and overbank deposits. We spent the night outside Zakopane in another university guest house, and on the Saturday morning, walked through a succession of nappes – unfortunately in rather poor weather. In the afternoon we visited the huge salt mine at Wieliczka just outside Krakow, and after dinner, boarded the overnight sleeper train from Krakow to Budapest. The journey was somewhat interrupted by “passport control”, but we arrived on time to a warm welcome in Budapest from Prof. Orsolya Sztano (university) and Dr. Gyorgyi Juhasz (geological institute).

Sunday was a chance to see a little of Budapest, and to visit the museum where there was a traveling display of dinosaurs and the origin of flight. Fortunately, the captions were in English as well as Hungarian! Our hosts had other commitments in the late afternoon and evening, but gave us tickets to a chamber

recital somewhere in the outskirts of Buda. I had hoped before undertaking the lecture tour to get a chance to listen to some Bartok in Budapest, and indeed, the group played Bartok. The promised taxi was waiting for us outside, and I tried to get my mind into lecturing mode again for the next day.

On the Monday morning, there was time for some sightseeing in Budapest, but both Monday and Tuesday afternoons were devoted to my five lectures. Again, the lecture hall was full, and many people commented on how they were looking forward to the field trips on Wednesday, Thursday and Friday. On Wednesday, we visited turbidite successions in the Geresce mountains, and saw a thick succession of carbonates at the Tata Geological Park. On Thursday we headed northeastward from Budapest toward Eger to see clastic successions, and on Friday, we headed toward Lake Balaton where there were some extremely interesting fluvial-deltaic coarse clastics. The rain in no way interfered with the discussion, which continued until it was almost too dark to see the rocks. On all three days, the group in the field ranged from ten to more than twenty participants, from Hungary, Poland, Slovakia, Romania, the Netherlands, Italy and the United States. Representatives from academia and industry were present, and the different experiences and points of view made for excellent discussions. Led by Prof. Sztano, the various field trip leaders gave great introductions to the various outcrops.

I want to thank all of our hosts for their superb organization of our visit, and for making possible this exchange of ideas and experiences. We have many new friends and new experiences, and I urge members of IAS, if the opportunity arises, to visit Poland and Hungary and enjoy the warm welcome, hospitality, and excellent outcrops. I also want to thank IAS for having asked me to undertake this lecture tour – it was an honour to represent IAS and to encourage and strengthen interchanges between sedimentologists from different countries.

*Roger G. Walker
Calgary, Canada*

REPORT ON

The IAVCEI-IAS 2nd International Maar Conference,

15-29 September, 2004, Hungary – Slovakia- Germany

Maars are small volume volcanoes that are the second most common volcanic landforms on Earth. Maar volcanoes have characteristically wide and deep craters commonly referred as “hole-in-the-ground” features and formed by the explosive interaction of magma and water or water saturated sediment. After the collapse of the maar crater, ground-water inflow quickly fulfills the volcanic depression and creates a deep crater lake. Maar lakes are steep sided and often surrounded by instable steep tephra cliffs that quickly can erode into the lake. During post-eruptive history of maar volcanoes, landslides, crater wall collapses and volcanoclastic debris flows and turbidity currents form a very typical lacustrine succession in the maar lakes.

In recent years volcanological research on maars and relevant volcanism lives a new renaissance. In the culmination of this process after the First International Maar Conference, which took place in Germany 2000, the second international maar conference was held in Hungary 2004. In contrast to the 1st International Maar Conference (1IMC) during the 2nd International Maar Conference (2IMC) researchers have been invited to the Pannonian Basin, where maar volcanoes are often eroded and their crater infill or their deeper root zones are exposed. The great success of the 2IMC can be seen in the number of 108 registered participants from 28 different countries. Moreover, the presentations covered research areas from each continent including Antarctica. The scientific symposia were grouped into 10 different theme sessions. From these sessions a wide range of subjects had a direct relevance to sedimentological processes. This was one of the reasons for the International Association of Sedimentologists to support the 2IMC, and therefore the 2IMC became a partially supported scientific event of the IAS. In addition, the 2IMC was an official event of the Commission of the Volcanogenic Sediments (CVS), a committee of the International Association of Volcanology and Chemistry of the Earth Interior, which gave a high profile to the event.

To emphasize the interrelationship between volcanological and sedimentological researchers the following theme sessions showed direct relationship between classic sedimentology and volcanology:

- Maars and their tephra deposits
- Diatremes and their root zones
- Dykes, sills, plugs, domes, scoria cones, lava lakes and associated peperites in maar-diatreme volcanoes

- Maar crater lake limnology and maar crater sediments
- Surtseyan volcanism - Volcanic fields – polygenetic volcanoes

The 2IMC was held in Lajosmizse near Kecskemét city in the Great Plain of Hungary. The 2IMC was organised by researchers from Hungary, Slovakia and Germany as a representation of the common work between old and new members of the European Union. The Geological Institute of Hungary, the Geological Institute of Slovak Republic and the Würzburg University were the scientific organizations that stand behind the 2IMC. The Organising Committee lead by Ulrike Martin (Würzburg) and Károly Németh (Budapest) has convinced major scientific organisations to support the meeting both scientifically and financially. Therefore the 2IMC became an important event in year 2004 for the International Association of Volcanology and Chemistry of Earth Interior (IAVCEI) and the International Association of Sedimentologists (IAS). The 2IMC was officially also supported by the Deutsche Geologische Gesellschaft (DGG), the Geologische Vereinung (GV), the Society for Economic Geology (SEG) and the Magyarhoni Földtani Társulat (MFT). To support student participants and their presentations (both oral and poster) the Organising Committee has gained support from major publishing houses such as Elsevier, Amsterdam and Springer Verlag, Heidelberg and other scientific organisations such as University of Tasmania, University of Otago, and Society for Sedimentary Geology (SEPM) in form of generous offers of book packages for the student awards for the best presentations.

During the 2IMC plenty of presentations showed new descriptive results of pyroclastic deposits from volcanic fields as from Kamchatka, Central Mexico, Central Anatolia, Tenerife, Eger Graben, Golan Heights or Balaton Highland. A few presentations dealt with new methods such as AMS study of phreatomagmatic deposits from Hopi Buttes, Arizona, or rock magnetic studies of maar lake deposits from Messel, Germany. A casual link between the so called “cock’s tail jets” and their tephra deposits highlighted the importance of careful interpretation of certain units generated by a phreatomagmatic volcano. During the 2IMC there were presentations which had not a strict concentration on maar tephra ring deposits but on deposits produced by processes resulted by any magma water interaction and/or mass volcaniclast movement in wet environment and/or water saturated conditions, e.g. El Chichon eruption. Other contributions dealt with a wide range of topics, such as potential lahar hazard, major flood-basalt eruptions driven by extensive phreatomagmatic explosive events, criteria for distinguishing extra- and intra-crater kimberlitic tephra deposits and for field identification of structures characteristic of subaqueous and subaerial depositional settings. Several talks and posters dealt with the textural characteristics of magma/water non-explosive mixing and peperite formation from various settings such as tuff ring craters from Maine, USA, Western Hungary, and Southern Slovakia. Studies from subaqueous pyroclastic mounds and associated tuff cones from Iceland and from the LIP-related Sterkspruit Complex, South Africa, showed the link between maar and Surtseyan style volcanism.

In the session of maar crater limnology and crater lake sediments the presentations were very close to classical sedimentology. Geochemical and mineralogical studies on maar lake sediments from Lake Enspel, Germany, or Southern Slovakia were

good examples to show the relation to the environment of such lakes on the basis of such studies. Sedimentological analysis of the Pliocene Pula Maar in Western Hungary provides a model of the potential turbidite reflection from one steep wall of the crater lake to the other that may lead to the formation of repeated succession of turbidity beds. Maar laminites from the Baruth or other maar lakes from Germany, South America, and Java gave a full spectrum of case studies for the sedimentological understanding of these lake facies.

In respect to geoscience education strategies and the potential role of volcanologists in creating larger publicity for our science the President of the IAVCEI, *Oded Navon* (Jerusalem) gave an informative and very enthusiastic talk about the IAVCEI strategy in this process. The IAVCEI wishes to take an active role with its own committees in the programs of the UNESCO Year Planet Earth in the year 2007.

An informal meeting of the Commission on Volcanogenic Sediments, lead by the co-leaders U. Martin and K. Németh, took place. It has been decided to make more interactive connection between sedimentologists and volcanologists in a way to offer sessions during conferences and workshops, which may have some relevance to studies targeting volcanoclastic sedimentation. Formal addenda will be announced during the IAVCEI General Assembly in Chile in November 2004.

Before the 2IMC a Scientific Workshop called "*The Maar Engine*" was held in Würzburg in the Physikalisch Vulkanologisches Labor. Directly before and after the conference 2 scientific field trips were organised to visit maar-diatreme volcanic fields in Western Hungary and to Southern Slovakia. Both field trips have been focused on the crater and/or conduit filling zone of phreatomagmatic volcanoes.

In addition, an intergovernmental agreement has been signed between Slovakia and Hungary to continue the cooperation on geological researches between these two countries. Participation of *Oded Navon* as current IAVCEI President gave significant prestige for the meeting and ensured the future of the series of Maar Conferences. During the meeting it has been preliminarily decided that the next Maar Conference (3IMC) will be held in Mexico in 2009.

During informal discussions it has been agreed that a few sites from the Western Hungarian phreatomagmatic volcanic fields are so well exposed, that international research projects could be set to make those sites as type localities. A formal proposal to initiate such projects under the umbrella of the IAVCEI is planned during the IAVCEI General Assembly in 2004 November, Pucon Chile. It has been also discussed that the Commission on Volcanogenic Sediments would take a more pronounced role in the IAVCEI activities in the next few years, such as offering Scientific Sessions for the IAVCEI Continental Basalt Volcanism in 2006 in China, Special Workshop during the IUGG General Assembly in Perugia, Italy in 2007. For further developments in the organisation of such sessions will be announced through the IAVCEI home page (www.iavcei.org) or IAS home page.

On the occasion of the 2IMC an Abstract Volume has been published in the series of the Occasional Papers of the Geological Institute of Hungary (volume 203). A monography style book has been published by the Geological Institute

of Hungary as field trip guide to Western Hungary with a title of “Mio/Pliocene phreatomagmatic volcanism in the western Pannonian Basin” by *Ulrike Martin and Károly Németh* as the 26th volume of the *Geologica Hungarica*, Series *Geologica*, Budapest book series. A guide titled as “Guidebook to the Southern Slovakia Alkali Basalt Volcanic Field” by *Vlastimil Konecny et al.* has been published by the Geological Survey of Slovak Republic. These books are available via the authors or via the publishing organisations.

Selected papers from the 2IMC presentations are collected and intend to be published in the *Journal of Volcanology and Geothermal Research* as a Special Volume entitled “*Monogenetic volcanic fields including maar-diatreme volcanoes and their root zone, tuff rings, tuff cones and scoria cones*” edited by *Ulrike Martin, Károly Németh, James D.L. White and Volker Lorenz*. Another Special Volume in the journal called *Zeitschrift für Deutschen Geologischen Gesellschaft* entitled “*Maar-diatreme volcanism: geophysical studies, economic geology, maar lakes as sedimentary traps and geoeducation*” edited by *Kurt Goth, Vlastimil Konecny, Georg Büchel, Peter Suhr and Jaroslav Lexa* has also been agreed.

Ulrike Martin

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ANNOUNCEMENT

10th French Congress of Sedimentology

October 11-13, 2005. Presqu'île de Giens, 83 - France

The 10th French Congress of Sedimentology is organized by the «**Association des Sédimentologistes Français**» (ASF) and hosted by the «**Centre de Sédimentologie-Paléontologie**» of the «**Université de Provence**» (Aix-Marseille I). It will take place in the **Giens peninsula**, a superb spot surrounded by the deep blue Mediterranean Sea.

The main **conference topics** to be discussed are:

- Carbonates: objects, depositional processes and systems (international symposium);
- Reefs and buildups (international symposium);
- Coastal sedimentation: non cohesive and cohesive granular deposits;
- Deep siliciclastic sedimentation;
- Sedimentation on continental margins;
- Continental sedimentation;
- Sedimentation and organic matter;
- Sedimentary records of climate changes;
- Sediments and fluids;
- Sedimentation and time;
- Sedimentary instabilities and natural hazards.

Pre- and post-Congress field-trips will be held in Provence - SE France. The provisional list of field-trips is as follows:

- Early Cretaceous Carbonate platforms of Provence (SE France);
- Sedimentation and fossiliferous beds : examples from the “Réserve Géologique Naturelle de Haute-Provence”;
- Continental deposits of the Aix-en-Provence Basin during Latest Cretaceous and Palaeocene times;
- Architecture and stratigraphy of the Apto-Albian deposits of the SE France basin: from the platform to the slope of the Vocontian domain;
- Carbonate and siliciclastic gravity deposits in a transtensional basin: the Cenomanian - Coniacian series of the South-Provençal Basin;
- Geology and wines of Provence;
- Carbonate gravity systems (turbidites, breccias) in the French subalpine basin during Tithonian and Barremian-Aptian times;

- Oligo-Miocene reefal and skeletal systems of Basse-Provence;
- Siliciclastic and bioclastic Miocene deposits of the SE France basin : incised paleovalleys of the alpine foreland basin (Carpentras area, Basse-Provence);
- Sedimentology, sequence stratigraphy and reservoir architecture of the SE France Eocene-Oligocene series (Annot Sandstones and related depositional systems).

Contacts:

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Web-page: <http://www.sedimentologie.com>

Inscription and abstract submission deadline: May 31th, 2005.

ANNOUNCEMENT

Precambrian Molar-Tooth Carbonates: Wrapping up IGCP Project 447 in Central Australia

Adelaide – Alice Springs, Australia, June 15-19, 2005

IGCP⁴⁴⁷, which is an ongoing International Geoscience Programme project, was the brainchild of project leader Meng Xianghua (China) ably assisted by coleaders Robert Bourrouilh (France) and Darrel Long (Canada). IGCP 447 allows geologists from around the world to share notes on a rare, and enigmatic sedimentary feature of the Precambrian called “molar-tooth structure” or MTS. Up until quite recently, very little work had been done on MTS outside of North America; however, MTS was undoubtedly a worldwide phenomenon, and is attracting increasing interest among Precambrian geologists. The main objectives of IGCP 447 reflect this enhanced interest, and include a consensus definition, a classification, a global atlas, and geochemical and geotechnical models for molar-tooth carbonate formation, which will potentially invigorate research into Proterozoic environments, stratigraphy and palaeogeography. My own interests lie in the exciting potential of MTS to serve as an excellent proxy material for the reconstruction of past ocean chemical composition. So what is MTS?

Molar-tooth structures are early diagenetic features of enigmatic origin that appear to be largely, if not entirely, restricted to fine-grained Proterozoic carbonates deposited in mid- to upper-ramp settings. Typical MTS, that does on quite rare occasions resemble the markings on elephants’ molar-teeth, which explains the origin of the word, consists of downward-tapered, vertical to inclined, microcrystalline calcite filled, crack-like structures that in many examples appear to be folded and/or fractured due to early compaction. However, both sub-horizontal and spherical forms are common. What makes MTS so very different though from Phanerozoic sedimentary features is 1) the multiple episodes of early diagenetic formation and deformation, and 2) the nature of the calcite fill. MTS fill always comprises pure, uniform-equant, polygonal, blocky calcite spar 5-15 microns in diameter.

IGCP 447 kicked off its ambitious field itinerary in style in September 2002. Around thirty delegates from nine different countries were treated to the utmost in hospitality throughout eastern China. From the northern city of Baishan to the southern city of Hefei we were shown all the localities where molar-tooth structure had been reported, we attended two IGCP 447 conferences, and miraculously, due to the amazingly precise organisation of our hosts, still had ample time to enjoy Chinese culture. The scientific programme began with a visit to the Qipanmo,

Jinshitan and Dalinzi sections near Dalian, Liaoning Province. MTS can be found here in the Chanlingzi, Nanguanling, Yingchengzi and Xingmincun Formations, which on the basis of strontium isotope stratigraphy are considered to be early Neoproterozoic in age. The Dalinzi Formation, by contrast, is of Cambrian age, but reported claims of MTS in this formation were shown to be misinterpretations of evaporitic dissolution features during our visit. From Dalian we travelled by



Outcrop view of a Molar-Tooth Structure

train to Tonghua where we examined the sections at Laoling, Qinggouzi (both near Baishan) and Erdaojiang (near Tonghua) in Jilin Province. Here MTS was found to be extremely abundant in the early Neoproterozoic Wanlong Formation, sometimes making up to 50% of an exposure. Interestingly, the Wanlong Formation offered several examples of MTS that formed straight, 50 cm-long cracks with little evidence of the usual crumpling that is characteristic of pre-compaction features. At this point we broke off the field excursion in order to launch discussion of what we had seen at a formal two-day conference in Beijing.

The advanced research workshop on “Carbonates and Evolution of the Earth in the Proterozoic” attracted 30 speakers and 45 presentations with a working definition of MTS finally being arrived at by painful attrition (all genetic connotations had to be removed): **“Molar-tooth structures are irregularly shaped, 5-15 micron, microcrystalline, calcite blobs and ribbons with sharply defined walls against the surrounding sediment”**. Progress was also made on two other important aspects. Firstly, consensus opinion is moving towards a temporal distribution of MTS from 1.9 to 0.75 Ga, with the exception of 2.6 Ga examples from South Africa. This aspect of the project’s work is important as it could help to establish a link between the demise of MTS and other types of microcrystalline calcite as well as stromatolite diversity decline and the revolutionary environmental events of the mid-late Neoproterozoic, such as Snowball Earth episodes and planetary oxygenation.

In 2003, we moved back to the scene of the earliest reports of MTS, in the Belt/Purcell Supergroup close to the USA/Canada border where the scene was set for a debate between proponents of the seismic hypothesis of MTS formation, who view MTS as a passive injection of sedimentary grains, and those in favour of more mundane origins, such as gas escape and storm waves, who both require MTS to have been initially cavities filled later with cement. The excursion was excellently organised by Don Winston (USA) with stirring assistance from both Darrel Long and Brian Pratt (Canada). The first thing that strikes the geologist is the immense scale of the block fault-bounded Belt basin, which contains as much as 18 kilometres of sedimentary infill, thus defying current models of basin formation. The second thing is the form of the basin, which seems to have no modern or even Phanerozoic counterpart, having always been a broad, extremely flat expanse that may have been a massive lake and/or an epeiric sea at times.

Although our group mindset was focussed firmly on MTS, which are calcite-filled cracks, we spent much of our time discussing the genesis of other, more ubiquitous debris-filled cracks that have been interpreted to be either synaeresis or mud cracks, that is of submarine or subaerial origin. Such cracks are found through most of the supergroup and their sheer abundance is puzzling whichever interpretation you choose. Sedimentologists will be aware that both terms are heavily loaded with genetic connotations and you can rest assured that our occasionally heated debates explored every nuance of meaning. Every evening, alcoholic lubrication, liberally distributed courtesy of the Canadian contingent, infected us with calm and even jovial agreement about the matters of the day only to be followed next day by renewed disagreement and denials straight after breakfast. The less senior members of the group, including myself, were frequently astounded by the lack of common ground on even the most basic sedimentological interpretations. We should not have been surprised though as we had been forewarned by the guidebook, which on page one contended that “trip leaders will almost certainly disagree on some or many of the interpretations”.

As for molar-tooth structure, these well coordinated outcrop visits helped to establish some important common ground, namely the importance of MTS during early cementation. In particular, we noted that diagenetic nodules, sometimes called pods in the literature, are commonly associated with MTS cracks, the latter acting as conduits for the penetration of seawater into the sediment. In many cases, the large size of the nodules compared with the tiny widths of the cracks implied a considerable degree of fluid pumping through the cracks, which is more consistent with a cavity fill rather than a sediment injection origin. Such features are well known in the early Neoproterozoic of central Australia and are called “dalmation rock” there; they will form one of the focal points for our next field meeting to Australia in 2005 at which business will begin to be wrapped up.

During the subsequent conference, two memorable talks took place, by the French group of Michel Demange and coauthors and another by James Bishop (USA), who showed convincing microprobe evidence for the existence of cores inside molar-tooth calcite microspar crystals from China (0.8 Ga) and South Africa (2.6 Ga), respectively. These speakers and my group could use further geochemical arguments to demonstrate that these cores were unlikely to have been high-Mg calcite, which has been suggested in the literature, but instead were remnants of a

low-Mg calcite precursor, such as vaterite, thus setting the stage for future debates on the origin of MTS, its significance and most importantly the reasons for its enigmatic disappearance from the rock record about 750 million years ago.

Since that time, all research groups have moved on with their respective research projects on molar-tooth facies models, sedimentology, palaeogeography, geochemistry, microstructure and field relations. The group's next and last meeting will take place in the expansive and impressive landscapes of central Australia during June 5-19, 2005. The Bitter Springs Formation of the Amadeus Basin will be the target of this focused excursion. Participants will be led through the late Neoproterozoic of the Flinders Ranges, north of Adelaide, into the early Neoproterozoic of the Amadeus Basin close to Alice Springs. Molar-tooth structure here is found in cycles of red beds and dolomitic limestone. Early cementation by molar-tooth cracks has so mottled the outcrops that they have been called "dalmation rock" by visiting geologists. This part of the Bitter Springs Formation is controversial as are most molar-tooth successions in that it has been alternatively described as marine and lacustrine, both with good reason, and both interpretations may indeed be correct. During that trip we hope to be able to put to rest some of the disputes on the origin of MTS and will combine our various data to assess the significance of MTS in the context of planetary evolution, particularly the meaning of its enigmatic disappearance at such an auspicious time in Earth history. Anyone interested in participating in what will be a fascinating and stimulating fortnight in the red outback of the sunburnt country are welcome to contact me by email at graham.shields@jcu.edu.au.

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CALENDAR

HOLOCENE ENVIRONMENTAL CATASTROPHES IN SOUTH AMERICA: FROM THE LOWLANDS TO THE ANDES*

Joint meeting of IGCP 490 and ICSU/IUGS

March 13-19, 2005
Laguna Mar Chiquita,
Province of Córdoba,
Argentina

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IGCP 447 FIELD CONFERENCE ON NEOPROTEROZOIC CARBONATES «MOLAR-TOOTH STRUCTURE DOWNUNDER»

June 1-14, 2005
Adelaide -
Alice Springs,
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THE SEDIMENT FACTORY

SEDIMENT05 - 3RD ANNUAL CONFERENCE OF SEPM-CES

*July 18-20, 2005
Gwatt, Thun area,
Switzerland*

*Fritz Schlunegger
University of Bern
Phone: 0041 31 631 8767
Fax: 0041 31 631 4843
E-mail: sediment05@geo.unibe.ch
Web-page: www.geo.unibe.ch/sediment05*

8TH INTERNATIONAL CONFERENCE ON FLUVIAL SEDIMENTOLOGY*

*August 7-12, 2005
Delft
The Netherlands*

*Salomon B. Kroonenberg
Department of Geotechnology
Delft University of Technology Mijnbouwstraat 120
2628 RX Delft, The Netherlands
e-mail: Organizing.committee@8thfluvconf.tudelft.nl
Web-page: <http://www.8thfluvconf.tudelft.nl/>*

GLACIAL SEDIMENTARY PROCESSES AND PRODUCTS*

*August 23-26, 2005
University of Wales,
Aberystwyth
U.K.*

*Michael Hambrey
Neil Glasser
Bryn Hubbard
Centre for Glaciology
Institute of Geography and Earth Sciences
University of Wales
Aberystwyth SY23 3DB UK
Phone: +44(0)1970 622606
Fax: +44(0)1970 622659
E-mail: mjh@aber.ac.uk / nfg@aber.ac.uk /
byh@aber.ac.uk
(<http://www.aber.ac.uk/visitors/glaciology/>)*

7TH INTERNATIONAL SYMPOSIUM ON THE CRETACEOUS

*September 5-9, 2005
Neuchâtel
Switzerland*

*Karl B. Föllmi or Thierry Adatte
Institut de Géologie, Université de Neuchâtel, case
postale 2, CH-2007 Neuchâtel, Switzerland
E-mail: karl.foellmi@unine.ch ;
thierry.adatte@unine.ch
Web-page: <http://www.unine.ch/geologie/isc7/>
Fax nr.: 0041-718 26 01*

12TH CONGRESS R.C.M.N.S.

September 6-11, 2005

*Vienna,
Austria*

Martin Zuschin

*Department of Palaeontology University of Vienna
A-1090 Vienna, Althanstrasse 14 Austria*

e-mail: martin.zuschin@univie.ac.at

Mathias Harzhauser

Geological-Palaeontological Department

Natural History Museum Vienna

A-1014 Vienna, Burgring 7 Austria

e-mail: mathias.harzhauser@nhm-wien.ac.at

THE NONMARINE PERMIAN

October 21-29, 2005

*Albuquerque,
New Mexico, USA*

Dr. Spencer G. Lucas

*New Mexico Museum of Natural History
1801 Mountain Road NW*

Albuquerque, NM 87104 USA

Phone: 505-841-2873/ Fax: 505-841-2866

E-mail: slucas@nmmnh.state.nm.us

10TH FRENCH CONGRESS OF SEDIMENTOLOGY

October 11-13, 2005:

*Presqu'île de Giens,
France*

Pr. Marc Floquet

*Université de Provence, Centre de Sédimentologie-
Paléontologie, FRE CNRS 2761 «Géologie des Systèmes
Carbonatés»*

*Place Victor Hugo, Case 67, 13331 - Marseille - Cedex
03 - France*

*Tel.: +33(0)491106723 (secret.: 6323 ou 6762) Fax:
+33(0)491108523*

E-mail : mfloquet@newsup.univ-mrs.fr

Pr. Thierry Mulder

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Dr. Philippe Razin, Université Bordeaux III, EGID

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E-mail : razin@egid.u-bordeaux.fr

Web-page: <http://www.epoc.u-bordeaux.fr/ASF/asf.html>

GONDWANA 12 CONFERENCE

November 6-11, 2005
Mendoza
Argentina

Carlos W. Rapela | crapela@cig.museo.unlp.edu.ar
Luis A. Spalletti | spalle@cig.museo.unlp.edu.ar
Centro de Investigaciones Geológicas,
Universidad Nacional de La Plata - CONICET
Calle 1# 644, B1900TAC La Plata, Argentina.
Phone/Fax: 54 221 4215677
Web site: <http://cig.museo.unlp.edu.ar/gondwana/>

CLIMATE AND BIOTA OF THE EARLY PALEOGENE

June 19-25, 2006
Bilbao,
Spain

Dr. Victoriano Pujalte
Departamento de Estratigrafía y Paleontología
Facultad de Ciencia y Tecnología
Universidad del País Vasco
Apdo. 644, 48080 Bilbao, Spain
Fax: +34 601 3500
E-mail: cbep2006@lg.ehu.es
Web site: www.ehu.es/cbep2006

PALAEOPEDOLOGY: NEW PERSPECTIVES ON OLD SOILS*

July 10-13, 2006
Cardiff
UK

Susan B. Marriott
School of Geography and Environmental Management
Faculty of the Built Environment
University of the West of England
Coldharbour Lane, Bristol BS16 1QY, UK
e-mail: Susan.Marriott@uwe.ac.uk
V. Paul Wright
Department of Earth Sciences
Cardiff University
Cardiff CF10 3YE, UK
e-mail: wrightvp@cardiff.ac.uk



17TH INTERNATIONAL SEDIMENTOLOGICAL CONGRESS*

August 27 –
September 1, 2006
Fukuoka
Japan

Ryo Matsumoto
Department of Earth & Planetary Sciences
University of Tokyo
Hongo, Tokyo 113, Japan
E-mail: ryo@eps.s.u-tokyo.ac.jp
Web-page: <http://sediment.jp/>

SEA LEVEL CHANGES: RECORDS AND MODELING (SEALAIX'06)

Convenors : G.Camoin (CNRS, Aix-en-Provence, France), A. Droxler (Rice University, Houston, USA), C. Fulthorpe (Univ. of Texas, USA), K. Miller (Rutgers University, USA)

September 25-29, 2006

*Aix-en-Provence
and Giens,
France*

Gilbert Camoin

CEREGE CNRS UMR 6635

Europôle Méditerranéen de l'Arbois

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