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EDITORIAL

Newsletter 256 opens with the Student Corner session where Andrea Croci reports on a travertine-siliciclastic succession deposited in a fault controlled continental extensional, and Theodore R. them on the use of osmium isotopic composition of organic matter in black shales to reconstruct global changes.

In the second part of this newsletter, Meetings and the Summer School sponsored by IAS during 2014 Carbonate sedimentology and reservoir systems» held in Albania conferences, are reported.

Announcements of the XVIII International Congress on the Carboniferous and Permian ICCP 2015 and on Submarine Paleoseismology are in the middle part of the Newsletter. A new session named «Frames from the World» is launched. Anybody is welcome to contribute to it.

Student Grant applications guidelines close the Newsletter.

IAS has restyled the webpage (www.sedimentologists.org): please have a look at it, log in and fill the spaces under your profile, and renew your membership for 2015. Remember that being an IAS member gives you the following benefits:

- access to the online versions of Sedimentology and Basin Research, including all issues ever published;
- access to the printed versions of Sedimentology and Basin Research at very favourable rates;
- access to the IAS Member Directory;
- the Friendship Scheme which gives free membership to people in less-developed countries;
- the electronic Newsletter;
- a network of National Correspondents, which report on the activities in their countries;
- International Sedimentological Congress every four years at reduced fees;
- annual Regional Meeting and meetings sponsored by the IAS at reduced fees;
- special lecturer tours allowing sedimentology groups to invite

a well-known teacher to give talks and short courses in their country;

- travel grants for PhD student members to attend IAS sponsored meetings;
- research grants for PhD student members (maximum 1.000 Euros);
- institutional grants for capacity building in 'Least Developed Countries' (LDC), (maximum 10.000 Euros)
- biannual Summer Schools focused on cutting edge topics for PhD student members.

I would like to remind all IAS members that:

- the IAS Newsletter 256 is published on-line and is available at: http://www.sedimentologists.org/publications/newsletter
- the next IAS Meeting will be held from 22-25 June 2015 in Krakow (Poland). For details, please check: http://www.sedimentologists.org/meetings/isc

The Electronic Newsletter (ENIAS), started in November 2011, continues to bring monthly information to members. For information on ENIAS contact ias-office@ugent.be

Check the new Announcements and Calendar. Meetings and events shown in **CAPITAL LETTERS** and/or with * are fully or partially sponsored by IAS. For all of these meetings, IAS Student Member travel grants are available. Students can apply through the IAS web site. To receive the travel grant, potential candidates must present the abstract of the sedimentological research they will present at the conference. More info @ www.sedimentologists.org

Vincenzo Pascucci
(IAS General Secretary)

STUDENT CORNER

IAS Postgraduate Grant Scheme Report -1st session, 2013

DEPOSITIONAL ARCHITECTURE AND EVOLUTION OF MIXED TRAVERTINE-SILICICLASTIC SUCCESSION IN A FAULT CONTROLLED CONTINENTAL EXTENSIONAL BASIN (MESSINIAN, SOUTHERN TUSCANY, CENTRAL ITALY)

The extensional Neogene Albegna Basin (Southern Tuscany, Italy) (Figs 1 and 2) includes several travertine units from Miocene to Holocene time. During the late Miocene (Messinian), a fault-controlled basin (nearly 500 km2 wide) was filled by precipitated travertine carbonate and detrital siliciclastic strata, nearly 90 m thick. This continental carbonate succession was investigated to

Fig. 1 Tuscany (red) in Europe and Mediterranean

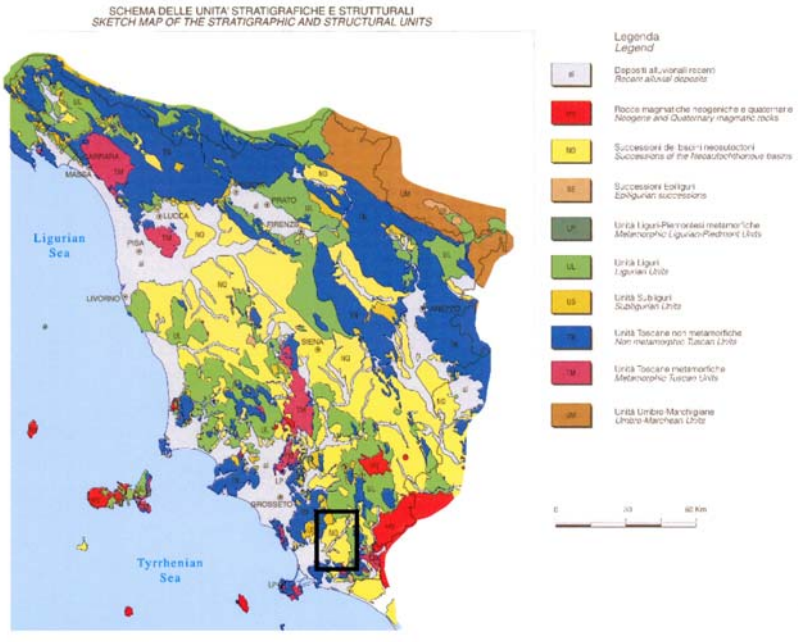

Fig. 2 – Geological sketch map the Tuscany. In the square the Albegna Basin.

define its geometry, lithofacies types, depositional environments, and to characterize the variety of precipitated carbonate fabrics.

The mixed carbonate-siliciclastic succession has a wedge-shaped geometry thinning northward. Carbonates are in centimetres to a few decimetres thick beds and include nine travertine facies types: F1) clotted peloidal micrite and microsparite boundstone; F2) raft rudstone/ floatstone; F3) sub-rounded radial coated grains grainstone; F4) coated gas bubble boundstone; F5) crystalline dendrite cementstone; F6) laminated boundstone; F7) coated reed boundstone; F8) peloidal skeletal grainstone; F9) calci-mudstone and microsparstone. Siliciclastic deposits vary from decimetre to more than 10 m thick beds and include five lithotypes: F10) breccia; F11) conglomerate; F12) massive sandstone; F13) laminated sandstone; F14) claystones. The succession recorded three phases of evolution of the depositional setting (Fig. 3). 1) At the base of the succession a northward prograding hydrothermal travertine terraced slope is identified, developed close to the extensional faults placed southward with respect to the travertine deposition. Terrace walls and pool rims are characterized by crystalline dendrites, whereas terrace pools show widespread coated bubble boundstone. Adjacent to the travertine terraced slope, in the eastern part of the studied unit, 3-4 m thick layers of laminated claystone, decimetre thick layers of conglomerate and laminated sandstone accumulated in an alluvial plain

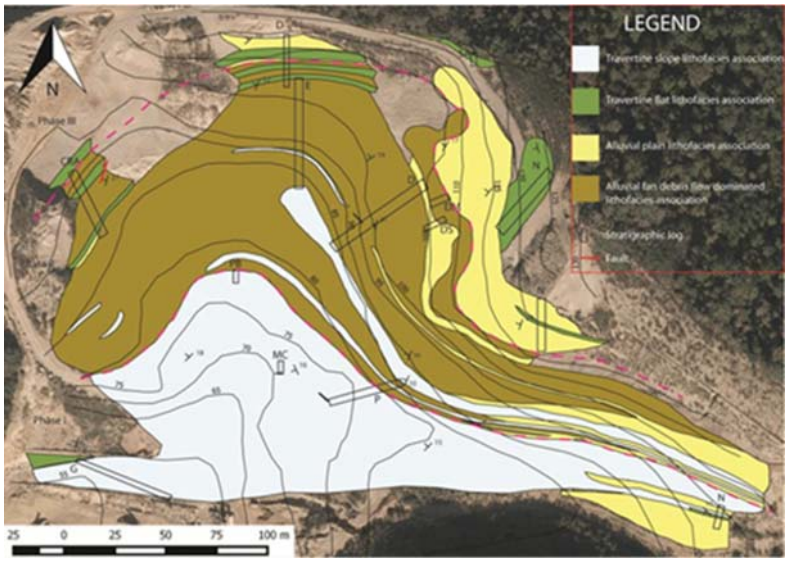

Fig. 3. Geological map of the quarry showing the different depositional systems recognised and the three distinguished phases of the evolution of the succession.

environment. 2) The almost continue travertine succession was interrupted by the deposition of several metres thick alluvial fan deposits, consisting of massive breccias, intercalated with channelized conglomerates and laminated sandstone, fluvial deposits that prograded northward and westward. Travertine lenses, 2-3 metre thick, characterized by low-angle terraced systems, occur intermittently alternated with the siliciclastic deposits. 3) In the third phase, the depositional setting evolved into an alluvial plain with ponds rich in coated reed travertines. The thermal water influence on the depositional environment decreased in this final phase and the travertines, more influenced by ambient temperature freshwater, are enriched in faecal pellets, molluscs and phytoclastic remains.

Travertine stable isotope data indicate average values of 1.8‰ V-PDB for ä13C (-1.99; 3.88) and of -7.6‰ V-PDB for ä18O (-10.48; -6.14), confirming the geothermal origin of the precipitating spring water (Fig. 4). In the phase III the decrease of the influence of the thermal water in favour of ambient temperature freshwater influence is supported by the decrease of the ä13C to average values of 0.46‰ V-PDB.

This study shows the stratigraphic architecture and sedimentary evolution of hundred metres scale continental succession in which hydrothermal activity and travertine precipitation were driven by the extensional tectonic regime, with faults acting as fluid paths for the thermal water. Fault activity created the accommodation space for carbonate and alluvial sediment accumulation. Erosion of the uplifted footwall blocks provided the sediment source for the alluvial fan breccias, which alternated with the hydrothermal

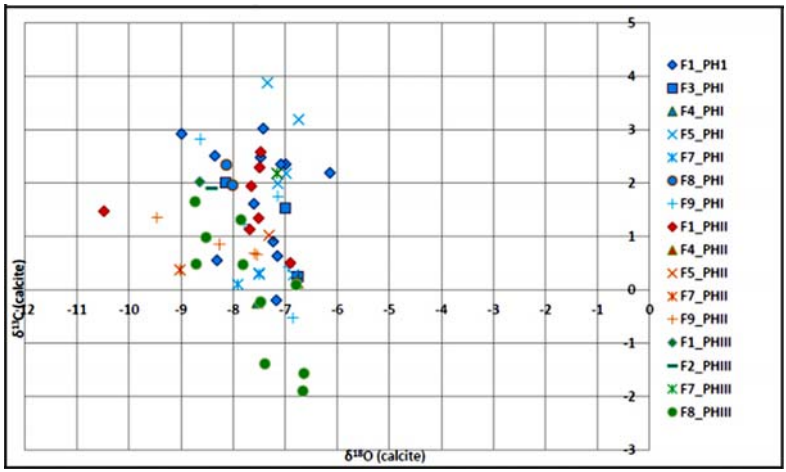

Fig. 4. Plot of ä18O (calcite) ä18O (calcite) versus ä13C (calcite) for 63 samples collected from the studied succession. Phase I and phase II signals confirm the geothermal origin of the precipitating spring water, while phase III shows a more marked influence from ambient temperature freshwater.

precipitation. It is supposed that possible humid climate phases, during the post-evaporitic Messinian time, were useful to the recharge of the aquifer that fed the vents and promoted the formation of the detrital alluvial fans.

The IAS grant has funded part of the field work and part of the geochemical analyses in the following:

Field work	540 Euro	11 days
Geochemical analyses	437 Euro	38 samples

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STUDENT CORNER

IAS Postgraduate Grant Scheme Report -1st session, 2014

UTILIZING THE OSMIUM ISOTOPIC COMPOSITION OF ORGANIC MATTER IN BLACK SHALES TO RECONSTRUCT GLOBAL CHANGES IN CONTINENTAL WEATHERING DURING THE EARLY JURASSIC

INTRODUCTION

The concentrations of atmospheric greenhouse gases (*e.g.*, carbon dioxide) have a direct effect on global temperatures and therefore climates. Enhanced or reduced silicate weathering rates may represent and effective means to regulate atmospheric carbon dioxide (*e.g.*, Walker *et al.*, 1981 Berner *et al.*, 1983), thus affecting global temperatures. Therefore, increasing or decreasing this reaction rate directly influences global climate. Additionally, the rate of this reaction is also dependent on temperature, thus representing an important feedback unto itself. On short timescales, sequestration of carbon in organic-rich facies may also help to regulate atmospheric CO_2 levels and global temperatures (*e.g.*, Jenkyns, 2010).

In order to better understand the nature, and predict the consequences of anthropogenic-induced global warming, it is necessary to research past events of *abrupt* global warming. The geologic record contains a few known episodes of abrupt warming of the climate. For example, the Paleocene-Eocene Thermal Maximum (PETM, ~55 Ma) was probably caused by significant increases in atmospheric greenhouse gases (methane and carbon dioxide) released by the destabilization of methane hydrate (clathrate; *e.g.*, Dickens *et al.*, 1995). This raised global temperatures and resulted in a major perturbation to the global carbon cycle and a significant extinction event (Kennett and Stott, 1991). During the Early Jurassic, a similar event to the PETM is thought to have occurred. Although the Toarcian Oceanic Anoxic Event (T-OAE, ~183 Ma) occurred nearly 130 million years earlier and under completely different continental configurations, its geochemical and paleontological records are also indicative of significant environmental change and associated extinction events (*e.g.*, Harries and Little, 1999).

Enhanced volcanism, dissociation of methane clathrates, and/or oxidation of other organic matter are all hypothesized to have caused the carbon isotope excursion (CIE) and warming associated with the PETM and T-OAE. Since silicate weathering rates and global temperatures are related to one other, then these events represent excellent examples to test the hypothesis of a silicate-weathering feedback (Walker *et al.*, 1981) on short timescales. A better understanding of the T-OAE, and the influence of increasing temperatures from rising atmospheric greenhouse gas concentrations on the global earth system, is paramount to our ability to predict potential anthropogenic impacts on the planet (*e.g.*, Caldeira and Wickett, 2003). Utilization of the rhenium-osmium (Re-Os) system and $^{187}Os/^{188}Os$ composition of organic-rich shales are powerful tools used to reconstruct the osmium isotopic composition of seawater in the past. This is important because the osmium isotopic composition of seawater can be used to track the rates of continental weathering since it is largely a function of the relative contribution of osmium from continental weathering and the hydrothermal alteration of juvenile ocean crust (*e.g.*, Cohen, 2004).

Therefore, this project will attempt to expand the geochemical record of the T-OAE to western North America by utilizing a stratigraphically continuous record of Late Pliensbachian to Early Toarcian organic-rich mudrocks from the Western Canada Sedimentary Basin. Specifically, the major goal of this research is to construct an osmium isotope curve ($^{187}Os/^{188}Os$) across the T-OAE in order to test the hypothesis that increased global temperatures led to enhanced weathering rates on the continents, which stimulated ocean bioproductivity and subsequently ocean anoxia.

BACKGROUND

The major sources of osmium to the oceans are from continental weathering and delivery through rivers (*e.g.*, Levasseur *et al.*, 1999), alteration of juvenile ocean crust (*e.g.*, Martin *et al.* 2000, and cosmic dust/bolides (*e.g.*, Peucker-Ehrenbrink, 1996). The source lithology and its age impart a substantial control on river $^{187}Os/^{188}Os$ composition (*e.g.*, Levasseur *et al.*, 1999; Huh *et al.*, 2004). Clearly, the modern seawater $^{187}Os/^{188}Os$ value of ~1.06 is a result of the greater influence from continental inputs ($^{187}Os/^{188}Os$ H» 1.4) of osmium than from any other source ($^{187}Os/^{188}Os$ H» 0.127 for cosmic dust and oceanic crust). Because the background flux of cosmic dust imparts no significant effect on $^{187}Os/^{188}Os_{sw}$ values (Peucker-Ehrenbrink, 1996), the influence of the radiogenic continental (or unradiogenic mantle) input may be calculated by using a simple two-component mixing model:

$$\left(\frac{^{187}Os}{^{188}Os}\right)_{sw} = \left(\frac{^{187}Os}{^{188}Os}\right)_{m} f + \left(\frac{^{187}Os}{^{188}Os}\right)_{rw} (1-f) \quad (1)$$

$$1.06 = 0.127\ f + 1.4(1-f)$$

$$f = 0.27$$

This suggests that in the modern ocean, ~73% of $^{187}Os/^{188}Os_{sw}$ values is controlled by the input of osmium from rivers ($^{187}Os/^{188}Os_{rw}$) draining continents and ~27% is from alteration of oceanic crust and cosmic dust ($^{187}Os/^{188}Os_{m}$).

METHODS AND PRELIMINARY RESULTS

In order to test the hypothesis that increased weathering rates were associated with the T-OAE, several stratigraphic horizons spanning the CIE have been chosen (Fig. 1). Organic-rich

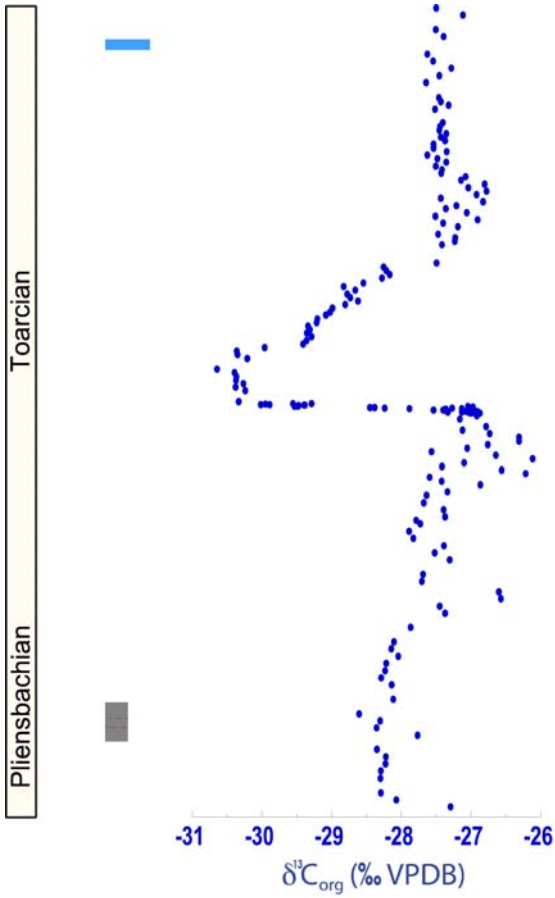

Fig. 1 – Diagram shows the weathering rates associated with the T-OAE

black shales were processed following standard protocols in order to isolate the hydrogenous osmium fraction (*e.g.*, Selby and Creaser, 2003; Selby *et al.*, 2007 and references therein) and analyzed using negative thermal ionization mass spectrometry (Creaser *et al.*, 1991).

Three preliminary samples spanning the CIE were recently analyzed for $^{187}Os/^{188}Os_{sw}$ values at Durham University. These data show more radiogenic $^{187}Os/^{188}Os$ values during the CIE and less radiogenic values before and after the CIE (Fig. 1). This is indicative of enhanced global weathering rates and a greater contribution of continental-derived osmium to the oceans during the T-OAE. These preliminary data corroborate the European $^{187}Os/^{188}Os$ dataset (Cohen *et al.*, 2004) and argue against McArthur's (2008) claim that those basins are only recording local environmental conditions. The western

North American $^{187}Os/^{188}Os$ data suggest that using Eq. 1 and modern-day end-member values, the contribution of osmium from the continents to the oceans was only ~11% before the T-OAE CIE. However, this continental contribution increased to ~40% during the CIE and decreased to ~21% post-CIE. Increased global temperatures and a strengthened hydrologic cycle may have resulted in increased global continental weathering rates. This may have increased nutrient delivery to the oceans, thus stimulating bioproductivity and eventually resulting in the widespread anoxia associated with the T-OAE.

BUDGET JUSTIFICATION

The support from IAS was instrumental in generating these preliminary data. I used all 1000 awarded to me in order to obtain these three data points (total of 1053). Due to our initial findings, I recently spent five weeks at Durham University where I processed the rest of the samples that I collected last summer.

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REPORT

CBGA 2014 Field Trip: Carbonate Sedimentology and Reservoir Systems

The field trip «Carbonate sedimentology and reservoir systems» was held in the framework of the XXth Congress of the Carpathian Balkan Geological Association (CBGA) in Albania. The three-day field trip focused on the Upper Cretaceous carbonate system that comprises extensive carbonate platforms and adjacent basins. We joined a group consisting of both academics and researchers from the industry. The main aim of the field trip was to unravel the tectono-sedimentary evolution of: (1) the Apulian platform, outcropping in the Sazani zone; (2) the Ionian Basin, outcropping in three distinctive thrust belts; and (3) the Kruja platform, related to the Adriatic platform and outcropping along a NNE-SSW thrust belt along the country. These litho-tectonic units are integrated in the Albanian thin-skinned fold-and-thrust belt related to the Alpine deformation.

On the first day, the Upper Cretaceous to Eocene shallow-water carbonates of the Kruja platform were examined along the «L'Escalier» succession. Different facies were examined in the field and interpreted according to previous studies and discussions within the group. Supratidal to subtidal environments were recognized. The lower part of the succession consists of dolomites and dolomitic breccias revealing oil impregnations in the outcrop. These breccias are marine in origin (sabkha type), as evidenced by stable isotope data. A clear inverted J-trend is visible in the isotopic signature, indicating a meteoric overprint. The top of the succession, Eocene in age, displays large olistoliths (several hundreds of meters) made of platform deposits as well as polygenic breccias. Both facies indicate major destabilizations of the platform. Large olistoliths are clearly visible in outcrop (Fig. 1).

The second day, the Upper Cretaceous shallow-water platform carbonates of the Sazani zone were investigated. These deposits are outcropping all along the Llogara road pass. High-frequency peritidal to subtidal cycles were identified in this succession (Fig. 2). This cyclicity is also observed in the petrophysical properties of these deposits. However, no clear relationship between lithofacies and diagenesis could be identified. This is related to an early to late meteoric overprint that affected the succession as a whole. As

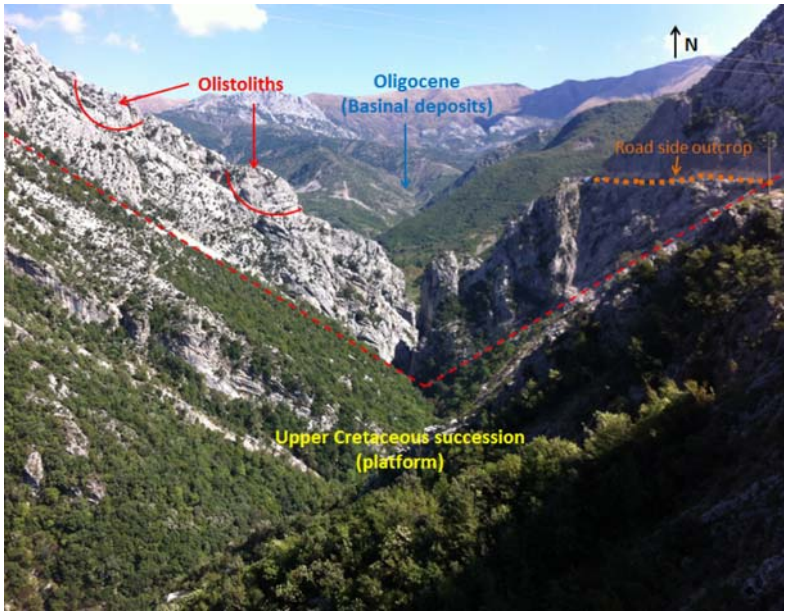

Figure 1: Transition from Upper Cretaceous carbonates of the Kruja platform to Oligocene basinal deposits. Note the large olistoliths at the top of the platform succession, evidencing major platform destabilizations.

both of us studied samples from this succession in the framework of our Master studies, this part of the field trip was of particular interest for us.

Next, the Piluri outcrop was visited which is part of the Cika belt of the Ionian zone. This outcrop consists of re-sedimented slope carbonates at the platform-to-basin transition. These deposits are composed of hemipelagites and thin gravity-flow deposits at the base and thicker sedimentary beds in the uppermost part.

The last day the deposits of the Ionian Basin were investigated in two separate thrust belts. Proximal as well as distal settings were studied. They consist of matrix-supported and grain-to-grain supported gravity-flow beds. Several intervals of turbiditic gravity-flow deposits can be identified. These are laterally continuous and support an extensive deposition of mass transport complexes. Slump deposits have a high potential for stratigraphic correlation between the different outcrops in the Ionian Basin. The Kremenara anticline in the Ionian zone is of particular interest because it serves as an outcrop reservoir analogue for oil producing fields in Albania and the Adriatic Sea. The development of framework stabilizing cements, tectonic stylolites as well as the reactivation of fractures exerts a major control on reservoir properties. Oil seeps are identified in the field, which are favored by the fracture network.

The Upper Cretaceous deposits of Albania are well-suited for basin reconstruction on a large scale due to

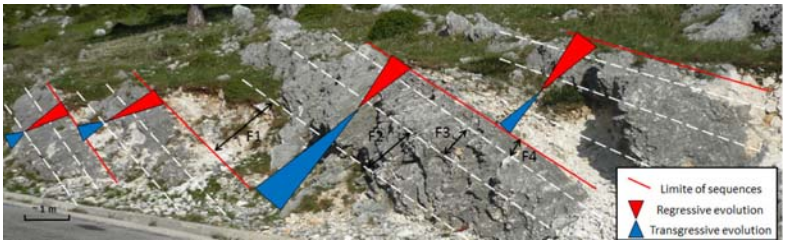

Figure 2: Peritidal cycles observed on field (F1 = Benthic Foraminifera Packstone; F2 = Chondrodonta/Nerinea Floatstone; F3 = Gastropod/Bivalve Packstone; F4 = Stromatolitic Bindstone).

presence of numerous high quality outcrops. It is surprisingly that not more excursions are organized in Albania as it gives geologists a unique opportunity to study a wide offer of geological processes on a relatively small area.

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ANNOUNCEMENT

Dear colleagues,

we would like to invite you to contribute to the scientific sessions **Eurasian conventional and unconventional hydrocarbon systems** and **Late Paleozoic reefs, biostromes and carbonate mounds** at the **XVIII INTERNATIONAL CONGRESS ON THE CARBONIFEROUS AND PERMIAN ICCP 2015** sponsored by IAS that will take place in Kazan, Russia on the 11th-15th of August 2015.

Deadline for abstract submission is on the **1st of April 2015.** You can find all the relative information at http://kpfu.ru/iccp2015

Eurasian conventional and unconventional hydrocarbon systems

This session welcomes all contributions focusing on concepts and ideas of effective conventional and unconventional hydrocarbon systems, with emphasis on tectonics and basin history (how basins are formed, filled and deformed) and on key prospecting tools for geological exploration. Contributions can also show results on aspects of source rock, migration, overburden rock, reservoir characteristics including porosity, permeability and architecture, seal rock characteristics, structural and stratigraphic traps, timing and preservation elements. Prospecting tools covered in these contributions can include petrophysics for exploration geoscientists, bio- and sequence stratigraphic applications, essential log correlation workflow and log annotation methods, data contouring and mapping, applications of multiple working hypotheses, 3-D modelling and utilization of hydrocarbon indicators for exploration.

Conveners: Danis Nourgaliev and Giovanna Della Porta

Late Paleozoic reefs, biostromes, and carbonate mounds

The Late Paleozoic was characterized by a variety of non-actualistic skeletal and microbial reef types, biostromes and mud mounds, some of which constitute important hydrocarbon reservoirs in the subsurface. This session welcomes all contributions aiming to improve the understanding of the sedimentological, paleontological, ecological and environmental aspects of upper Paleozoic reefs and mud-mounds. In particular, this session aims to unravel the environmental and paleogeographic controlling factors of the evolution of reef biota, abiotic and biogenic carbonate precipitation, the evolution of the depositional geometry and facies architecture, which all have important implications for reconstructing the geological record of reefs and for the petroleum exploration in such carbonate build-ups.

Conveners: Olga Kossovaya and Giovanna Della Porta

We are looking forward to receiving your contributions

Best Regards

Vladimir Silantiev, Danis Nourgaliev, Olga Kossovaya, Giovanna Della Porta

11,46

12,34

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FRAMES FROM THE WORLD

Aim of this new section of the Newsletter is to present sedimentary structures using amazing pictures.

I kindly invite all the IAS community to send me pictures to fill this section.

The picture is relative to longshore subaqueous dunes formed in front of the Al-Khiran beach in southern Kuwait. Dunes are exposed during low tide and can be followed for kilometres along the shore. They are u to half metre high and mantled with longshore oriented ripples. Sand is medium to fine grained and mostly composed of ooides. /Photo curtesy of V. Pascucci

SPECIAL IAS GRANTS OR 'INSTITUTIONAL IAS GRANTS'

Special IAS Grants or Institutional IAS Grants are meant for capacity building in 3rd world countries. There exists a list of 'Least Developed Countries' (LDC) by the UN. This list categorizes countries according to income per capita and is yearly updated.

Grants are allocated to allow Geology Departments in LDC to acquire durable sedimentological equipment for teaching and research (like sieves, calcimeters, auger drilling tools, etc.) or tools that can be used by all geology students (like general geology/sedimentology textbooks, IAS Special Publications (SP), memory sticks with back issues of Sedimentology or SP, etc). Therefore the grant application should clearly demonstrate to increase the recipient's capacity to teach sedimentology at the undergraduate level (Bachelor) in a durable way. It should also indicate in what way it would enable to support sedimentological research at the graduate level (Master).

Applicants should have a permanent position at their University and should be IAS members. Applications should provide the following information (not exhaustive list):

- the mission statement of the University/Geology Department
- the approval of the University Authorities to accept the grant
- a list of permanent teaching and technical staff members of the Geology Department (with indication of their area of research)
- the structure of the geology undergraduate and graduate courses (Bachelor/Master programme with indication of courses and theoretical and practical lecture hours)
- the number of geology students
- the actual facilities for geology/sedimentology students
- a motivation of application
- a budget with justification
- the CV of the applicant, including a sedimentology research plan

The institutional grant scheme consists each year of 2 sessions of 1 grant of 10.000 Euro. Applications run in parallel with the PhD research grant scheme (same deadline for application and recipient notification). The IAS Grant Committee will seek recommendations from relevant National Correspondents and Council Members (eventually including visitation) before advising the IAS Bureau for final decision. Additional funds made available by the recipient's University are considered as a plus.

Items listed in the application will be bought through the Office of the IAS Treasurer and shipped to the successful applicant. By no means will money be transferred to the grant recipient.

IAS STUDENT GRANT APPLICATION GUIDELINES

Application

The application should be concise and informative, and contains the following information (limit your application to 1250 words max.):

- Research proposal (including Introduction, Proposal, Motivation and Methods, Facilities) – max. 750 words
- Bibliography – max. 125 words
- Budget – max. 125 words
- Curriculum Vitae – max. 250 words

Your research proposal must be submitted via the Postgraduate Grant Scheme application form on the IAS website before the application deadline. The form contains additional assistance details for completing the request. Please read carefully all instructions before completing and submitting your application. Prepare your application in 'Word' and use 'Word count' before pasting your application in the appropriate fields.

Recommendation letter (by e-mail) from the PhD supervisor supporting the applicant is mandatory, as well as recommendation letter (by e-mail also) from the Head of Department/ Laboratory of guest institution in case of laboratory visit.

Please make sure to adequately answer all questions.

Deadlines and notifications

Application deadline 1st session: 31 March.

Application deadline 2nd session: 30 September.

Recipient notification 1st session: before 30 June.

Recipient notification 2nd session: before 31 December.

NOTE: Students who got a grant in a past session need to wait 2 sessions (1 year) before submitting a Postgraduate Grant Scheme grant application again. Students whose application was rejected in one session can apply again after the notification deadline of the rejected grant application

Guidelines for recommendation letter from supervisor:

The recommendation letter from the supervisor should provide an evaluation of the capability of the applicant to carry out the proposed research, the significance and necessity of the research, and reasonableness of the budget request.

The recommendation letter must be sent directly to the Treasurer of the IAS by e-mail, and before the application deadline.

It is the responsibility of the applicant to make sure that his/her supervisor submits the recommendation letter in

time. No reminders will be sent by IAS, neither to the applicant, nor to the supervisor. Applications without letter of support will be rejected.

Application Form

Research Proposal (max. 750 words)

Title: .....

Introduction (max. 250 words): .....

Introduce briefly the subject of your PhD and provide relevant background information; summarise previous work by you or others (provide max. 5 relevant references, to be detailed in the 'Bibliography' field). Provide the context for your PhD study in terms of geography, geology, and/or scientific discipline.

Proposal (max. 250 words): ...

Describe clearly your researchproposal and indicate in what way your proposal will contribute to the successful achievement of your PhD. Your application should have a clearly written hypothesis or a well-explained research problem of geologic significance. It should explain why it is important. Simply collecting data without an objective is not considered wise use of resources.

Methods (max. 125 words): .....

Outline the research strategy (methods) that you plan to use to solve the problem in the field and/or in the laboratory. Please include information on data collection, data analyses, and data interpretation. Justify why you need to undertake this research.

Facilities (max. 125 words): .....

Briefly list research and study facilities available to you, such as field and laboratory equipment, computers, library.

Bibliography (max. 125 words)

Provide a list of 5 key publications that are relevant to your proposed research, listed in your 'Introduction'. The list should show that you have done adequate background research on your project and are assured that your methodology is solid and the project has not been done already. Limit your bibliography to the essential references. Each publication should be preceded by a '*'-character (e.g. *Surlyk et al., Sedimentology 42, 323-354, 1995).

Budget (max. 125 words)

Provide a brief summary of the total cost of the research. Clearly indicate the amount (in Euro) being requested. State specifically what the IAS grant funds will be used for. Please list only expenses to be covered by the IAS grant.

The IAS will support field activities (to collect data and samples, etc.) and laboratory activities/analyses. Laboratory activities/analyses that consist of training by performing the activities/analyses yourself will be considered a plus for your application as they will contribute to your formation and to the capacity building of your home institution. In this case, the agreement of the Head of your Guest Department/Laboratory will be solicited by automated e-mail.

Curriculum Vitae (max. 250 words)

Name, postal address, e-mail address, university education (degrees & dates), work experience, awards and scholarships (max. 5, considered to be representative), independent research projects, citations of your abstracts and publications (max. 5, considered to be representative).

Advise of Supervisor and Head of Guest Department/Laboratory

When you apply for a grant, your PhD supervisor will receive an automated e-mail with a request to send the IAS a letter of recommendation by e-mail. You should, however, check with your supervisor everything is carried out the way it should be. It will be considered as a plus for your application if your

PhD supervisor is also a member of IAS.

Supervisor's name: .....

Supervisor's e-mail: .....

If you apply for laboratory analyses/ activities, please carefully check analysis prices and compare charges of various academic and private laboratories as prices per unit might differ considerably. Please first check whether analyses can be performed within your own University. If your University is not in a position to provide you with the adequate analysis tools, visiting another lab to conduct the analyses yourself strengthens your application considerably as it contributes to your formation and to capacity building of your home University. Please check with the Head of Department/Laboratory of your guest lab to assure its assistance during your visit. You should fill in his/her name and e-mail address to solicit his/ her advise about your visit.

Name of Head of guest Department/ Laboratory: .....

E-mail address of Head of Guest Department/Laboratory: .....

Finally, before submitting your application, you will be asked to answer a few informative questions by ticking the appropriate boxes.

- is your supervisor a member of IAS
- was this application your own initiative
- did you discuss your application with your Supervisor
- did you already had contact in the past with the Head of the Guest Department/Laboratory (if appropriate)

CALENDAR

Past Gateways
Paleo-Artic Spatial and Temporal Gateways

18th – 22nd May 2015
Postdam
Germany

http://www.geol.lu.se/pastgateways

Quadrennial International Limnogeology Congress (ILIC6)*

15th -19th June 2015
Reno
Nevada

Michael Rosen
mrosen@usgs.gov

31st IAS MEETING OF SEDIMENTOLOGY*

22nd-25th June 2015
Krakow
Poland

Micha³ Adam Gradziński
michal.gradzinski@uj.edu.pl
https://www.sedimentologists.org/ims2015

The 2nd International Conference on Tomography of Materials and Structures (ICTMS)

29th June – 3rd July 2015
Quebec City
Canada

http://ictms2015.ete.inrs.ca

15th Bathurst Meeting of Carbonate Sedimentologists*

13th-16th July 2015
Edinburgh,
UK

Rachel Wood
Rachel.Wood@ed.ac.uk

Second International Congress on Stratigraphy STRATI 2015*

19th-23rd July, 2015
Graz
Austria

http://strati2015.uni-graz.at/
strati2015@uni-graz.at

XVIII International Congress on the Carboniferous and Permian ICCP 2015

11th-15th August 2015
Kazan, Republic of Tatarstan
Russia

http://kpfu.ru/iccp2015

MinPet 2015

10th-12th September, 2015
Leoben,
Austria

minpet2015@unileoben.ac.at
http://minpet2015.unileoben.ac.at

VIII International Symposium on the Atlantic Iberian Margin 2015

21st – 23rd September 2015
Málaga
Spain

Nieves López
nieves.lopez@ma.ieo.es
http://www.ma.ieo.es/MIA15/

XII GEOSED MEETING*

21st-27th September, 2015
Cagliari
Italy

Stefano Andreucci
sandreucci@unica.it,
Luca G. Costamagna
lucakost@unica.it

International Symposium on Aeolian Deposits in Earth History

12th-13th October 2015
Beijing
China

Shiling Yang
yangsl@mail.iggcas.ac.cn
http://www.conferencenet.org/conference/ISADEH.htm

2015 National Chinese Conference of Sedimentology

Late October 2015
Wuhan,
Hebei

http://ccas2015.yangtzeu.edu.cn (in Chinese).

5th International Conference on Alluvial Fans*

29th November – 4th December 2015
Christchurch

James Driscoll
james.driscoll@monash.edu

35st IGC - International Geological Conference 2016

2nd August-4th September 2016
Cape Town
South Africa

www.35igc.org

XV Reunión Argentina de Sedimentología

September
2016
Santa Rosa, La Pampa
Argentina
Adriana Mehl

Adriana Mehl
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*** THESE EVENTS HAVE FULL OR PARTIAL IAS SPONSORSHIP**

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