

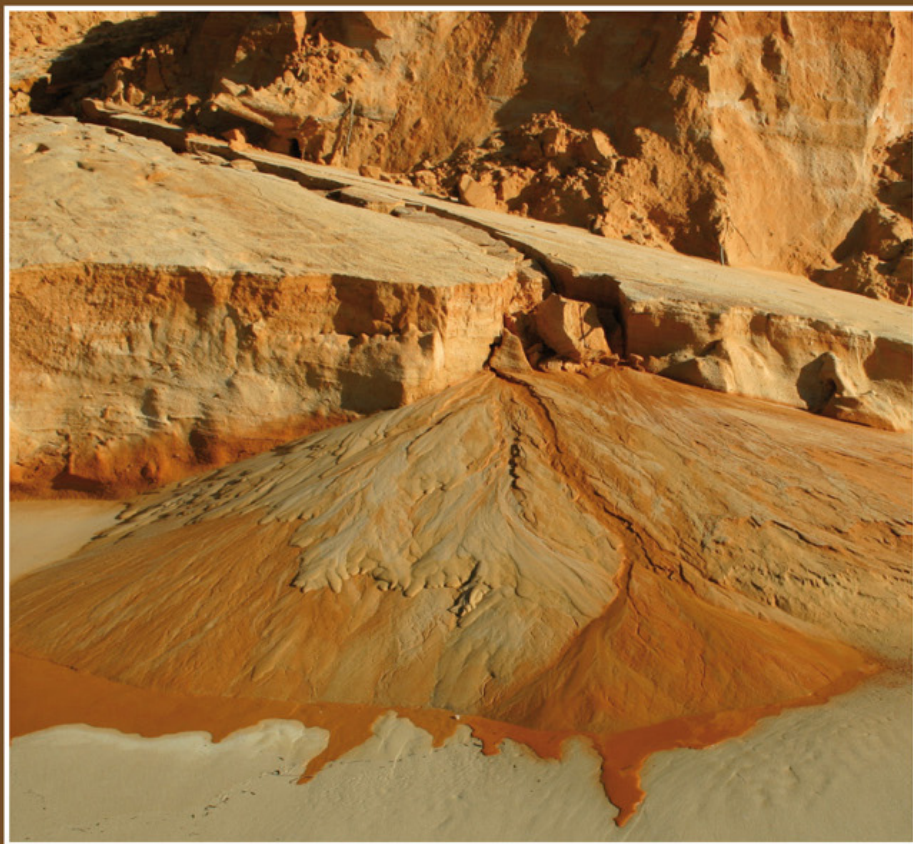
ISSN 2294-4931

IAS

NwLtr 250

February 2014

www.sedimentologists.org



International Association
of Sedimentologists

IAS Bureau and Council

President:	Poppe de Boer , Utrecht University, The Netherlands: P.L.deBoer@uu.nl
Past-President:	Finn Surlyk , University of Copenhagen, Denmark: finns@geo.ku.dk
Vice-Presidents:	Daniel Ariztegui , University of Geneva, Switzerland: Daniel.Ariztegui@unige.ch Hiroki Matsuda , Kumamoto University, Japan: hmat@sci.kumamoto-u.ac.jp Dilce Rossetti , INPE, Sao Paulo, Brazil: rossetti@dsr.inpe.br
General Secretary:	Vincenzo Pascucci , University of Sassari, Italy: pascucci@uniss.it
Treasurer:	Marc De Batist , Ghent University, Belgium: marc.debatist@UGent.be
Editors:	Stephen Rice , University of Loughborough, UK: S.Rice@lboro.ac.uk Tracy Frank , University of Nebraska Lincoln, NE, USA: tfrank2@unl.edu
Special Publications Secretary:	Thomas Stevens , Royal Holloway, University of London, UK: thomas.stevens@rhul.ac.uk
Member:	Peter Swart , Rosenstiel School of Marine and Atmospheric Science, Miami, USA: pswart@rsmas.miami.edu
Council Members:	Ana María Alonso-Zarza , University Complutense Madrid, Spain: alonsoza@geo.ucm.es Sergio Matheos , University de La Plata, Argentina: smatheos@cig.museo.unlp.edu.ar Isabel Montañez , University of California Davis, USA: Montanez@geology.ucdavis.edu Igor Vlahovic , University of Zagreb, Croatia: igor.vlahovic@rgn.hr Seung Soon Chun , Chonnam National University, South Korea: sschun@jnu.ac.kr Hildegard Westphal , Leibniz Center for Marine Tropical Ecology, ZMT Bremen, Germany: hildegard.westphal@zmt-bremen.de Jiaxin Yan , China University of Geosciences, China: jxyan@cug.edu.cn

Link to IAS National Correspondents:

<http://www.sedimentologists.org/network/correspondents>

CONTENTS

5	EDITORIAL
6	ANNOUNCEMENT International Summer School of Sedimentary Geology, 12 - 19 June 2014
10	REPORT Frames from Manchester
15	STUDENT CORNER Distribution of minor elements including rees in hydrothermally altered sediments in The Guaymas Basin
20	Study of the $\beta^{13}\text{C}_{\text{org}}$ of an Early Aptian section in the Basque Cantabrian Basin by Jone Mendicoa Larrauri
24	Super Sedimentological outcrops
27	IAS Special Publications with 50 % discount
28	IAS Institutional Grants
29	IAS Student Grant Application Guidelines
31	IAS Student Grant 2 nd Session 2013: allocated grants
32	CALENDAR

EDITORIAL

Newsletter 250 is the first of 2014. Report of the 39th IAS Meeting held September 2013 in Manchester is in the first part of Newsletter 250. Announcement of the first Summer School of Sedimentary Geology organized by the Kazan University occupies the second part. In the Student Corner, Elena Blinova and Jone Mendicoa Larrauri report how they have used the allocated IAS grants. The photo from the cover of the 2013 Newsletters is described in Super Sedimentological Outcrops. Please note that the guidelines for the Student Grants applications has been updated.

I would like to remind all IAS members that:

- ♦ the IAS Newsletter 250 is published on-line and is available at: <http://www.sedimentologists.org/publications/newsletter>
- ♦ the next IAS Meeting will be held in 2014 in Geneva (CH). For details, please check: <http://www.sedimentologists.org/meetings/isc>

- ♦ IAS will be present at the EGU Conference (April, 2014, Vienna - Austria); please visit: <http://www.egu2014.eu>
- ♦ IAS and Wiley are offering IAS Special Publications at a 50% discount; that is an additional 10% off of the normal membership discount.

The Electronic Newsletter (ENIAS), started in November 2011, continues to bring information to members. For info on ENIAS contact Nina Smeyers at nina.smeyers@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)

ANNOUNCEMENT

International Summer School of Sedimentary Geology, 12 - 19 June 2014

«STRATIGRAPHY AND FACIES ANALYSIS OF PERMIAN REFERENCE SECTIONS OF THE VOLGA-URALS REGION»

KAZAN FEDERAL UNIVERSITY, INSTITUTE OF GEOLOGY AND PETROLEUM TECHNOLOGIES

The International Summer School of Sedimentary Geology is directed toward PhD students interested in developing stratigraphic and

sedimentological skills. It will be held near Kazan (Tatarstan, Russian Federation). The geological domain between the Volga River and Ural





Mountains is the area where R. Murchison first defined the Permian System in 1841. The area near Kazan hosts reference sections and parastratotypes of the Kazanian (Roadian) and Urzhumian (Wordian) stages of the Middle Permian Series (Guadalupian). The Permian sections illustrate the distinct replacement of marine depositional settings by continental environments. The sediments of both Kazanian and Urzhumian stages contain specific fossil faunal and floral assemblages. Using these sections as examples, Professor N.A. Golovkinskii (1868) established regularities in the formation of rocks and the migration of facies through space and time. In 1894, similar inferences were formulated by J. Walther as the law of facies.

Topics of the school will be: 1) carbonate and terrigenous sedimentation in shallow marine to continental basins; 2) sea level change and sedimentation; 3) evaporites; 4) isotope geochemistry; 5) economic deposits (copper, coal, bitumen etc); 6) paleomagnetic studies; 7) facies analysis on sedimentary rocks; and 8) conditions of carbonhydrate accumulation in sedimentary rocks (example of Permian bitumens and heavy oils).

The school will include three days of lectures and four days of field work.

Three days of lectures will be directed toward the study of carbonaceous and terrigenous deposits with details on transitional marine to continental facies. The evolution of the Middle Permian epicontinental basin of the Volga-Urals region will be





correlated with that of Central Russia and Europe. Special attention will be dedicated to the use of biostratigraphic and paleomagnetic data to analyze the sedimentary sections.

Lecturer and student activities will be organized in the Institute of Geology and Oil-and-Gas Technologies of Kazanian Federal University, where full high tech equipped halls are available. All lecturers participating in the school, will be will be available to students to facilitate questions and discussions.

Three excursion days are aimed toward the study of lithological features, facies analysis of shallow- and brackish-water deposits, and facies combinations of different marine fauna (Foraminifera, Ostracodes, Brachyopodes, Conodonts, Bivalvia etc.) and flora in deposits of Kazanian and Urzhumian stages.

Excursions:

- ♦ Section of the upper Kazanian Substage near the Pechishchi Settlement (1 day);
- ♦ Section of the Urzhumian Stage in the Monastyrsky Ravine and

adjacent bank slopes of the Volga River (1 day);

- ♦ Sections along the Kama River (Sentyak, Elabuga, Tanajka) (2 days with the one night stay in Elabuga).

Organizing Committee:

- ♦ Danis K. Nurgaliev, DSc, Full Professor, Director of Institute of Geology and Petroleum Technologies, Vice-Rector for Research
- ♦ Rinat R. Khassanov, DSc, Head of Department of Regional Geology and Minerals of KFU (Russia)
- ♦ Marianna I. Tuchkova, DSc, Chief Researcher of Geological Institute of RAS (Russia)
- ♦ Vincenzo Pascucci, Ph.D, Full Professor University of Sassari (Italy), General secretary IAS
- ♦ Helmut Weissert, Ph.D, Professor at ETH, Department of Earth Sciences of Geological Institute (Switzerland)

When: 12 June to 19 June 2014

12-14 June - Lectures and

workshops

15-19 June - Field trips



Where: 420008, Kremlevskaya str, 4/5, Kazan, Tatarstan, Russian Federation, Kazan Federal University, Institute of Geology and Petroleum Technologies

Lecturers:

D.K. Nurgaliev (paleomagnetic investigations)

V. Pascucci (sedimentology, oil reservoirs)

R.Kh. Sungatullin, R.I. Kadyrov (lithology and facies analysis)

H. Weissert (palaeoclimate and carbon cycle, oxygen and carbon isotope geochemistry)

N.G. Nurgalieva (sedimentary cycles)

R.R. Khassanov (geochemistry and mineral resources of transitional facies)

V.P. Morozov (oil lithology)

A.N. Kol'chugin, M.I. Tuchkova (methods for investigating sedimentary rocks)

V.V. Silant'ev, G.M. Sungatullina (biostratigraphy and biofacies)

Who should apply:

Doctoral students who are interested in aspects of carbonate or clastic sedimentology, facies changes and basin analysis, paleoclimate and paleogeography, or in new tools in

sedimentology and stratigraphy.

The school is limited to 25 - 28 students.

Registration: http://www.kpfu.ru/main_page?p_sub=28343

Application deadline: 30 March 2014, acceptance announced by 15 April 2014

Costs:

School fee is 500 Euros/student, and includes accommodation in a double/triple room with full board for 7 days, plus transfer from and to Kazan airport to the University. Travel costs to Kazan are not included. However, IAS students can apply for travel grants directly on the IAS website (www.sedimentologists.org).

After acceptance, on April 15th, students will get an application form including all details of payment and registration.

Visa:

The local organizers will provide all necessary information and invitation letters in order to facilitate students and teachers who wish to obtain a Visa.

Info:

Rinat.Khassanov@kpfu.ru

REPORT

Frames from Manchester

From the 2nd to the 5th September 2013, Manchester hosted the 30th IAS Meeting of Sedimentology. Merren Jones, chair of the conference, and her collaborators were able to organize a highly scientific conference with more than 500 participants from all over the world.

Themes of the meeting were:
Resources, Climate and Earth Surface

Environments in Deep Time, Marine and Coastal Depositional Environments, Continental Depositional Environments, Basin Analysis, Impact of Glacial Processes on Sedimentation, Post-Depositional Modification of Clastic and Carbonate Sediments, Prediction and Visualization of Sedimentary Processes and Systems Through Modelling.



Figure 1. Merren Jones (Chair of the conference) and Poppe De Boer (IAS President) concluding the 30th IAS Meeting.

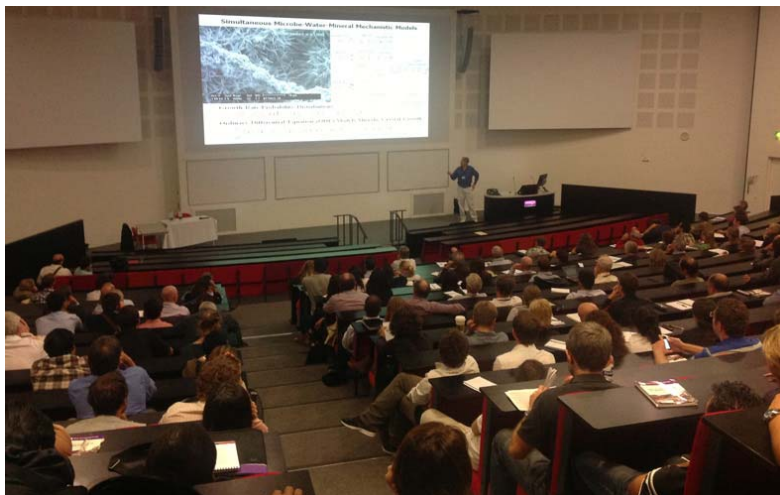


Figure 2. Bruce Fouke talk.



Figure 3. Best poster presentation: Haibo Jia, Hancheng Ji, Simin Sun and Xinwei Li, The segmentation of thrust fault in Foreland Basin: influences on sequence architecture.



Figure 4. Best poster presentation: Andrea Croci, Giovanna Della Porta and Enrico Capezzuoli: Depositional geometry and facies of hydrothermal lacustrine travertine in a fault-controlled extensional basin (Miocene, Southern Tuscany, Central Italy).

Keynote speakers, one per day, presented talks on the most up to date topics in Sedimentology – and more.

Sanjeev Gupta (Professor of Earth Science at the Imperial College London, UK) presented the latest astonishing findings from the Curiosity Rover mission on Mars.

Chris Paola (Professor of Geology and Geophysics, University of Minnesota, USA) explained how to consider the necessity of complexity in

modelling sedimentary processes in a talk entitled «Simplified theories and simplified experiments: Why too much realism is bad for your health».

Bruce Fouke (Professor of Geology and Microbiology, University of Illinois Urbana-Champaign, USA) discussed the use of cutting-edge DNA analysis in understanding interactions between microbial ecosystems, their environment, and mineral precipitation.



Figure 5. People during a session.



Figure 6. Marcello Tropeano and Claudio Di Celma conveners of the session Sequence stratigraphy on tectonically active basin margins.



Figure 7. Poster session.



Figure 8. Field trip participants.



Figure 9. The Old Stratford.

Field trip participants visited many of the places where basic principles of geology and stratigraphy were established in the 18th and 19th centuries. People were taken through England, Wales, Scotland and Ireland to visit Precambrian to Triassic rocks.

Social events included the ice breaker party at the Manchester Museum (where drinks and canapés were shared with features, collections and galleries of animal life, plants,

rocks and minerals and prehistoric life) and the Social Dinner. The dinner was organized in the International Suite, Manchester United Football Club, Old Trafford. All delegates were able to visit the United Museum and Stadium.

The IAS Bureau thanks Merren for the organization of such a good meeting.

Vincenzo Pascucci
IAS General Secretary

STUDENT CORNER

Distribution of minor elements including rees in hydrothermally altered sediments in The Guaymas Basin

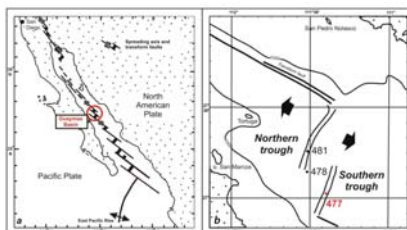
IAS POSTGRADUATE GRANT SCHEME REPORT, 2ND 2012

Introduction

The Guaymas Basin represents a modern example of tectonics, sedimentation, and high hydrothermal activity during the early stage of oceanic crust formation by rifting of the continental crust. DSDP Holes 477 & 477A were drilled into Upper Pleistocene hemipelagic diatom oozes and turbidites which overlay the southern rift of the Guaymas Basin with the «zero-age» oceanic crust (Aubry, 1982). Heat flow of 20 HFU was measured at Site 477 (Becker, 1981) where hydrothermal fluids ascend through the sedimentary cover. Here up to 440 m thick Upper Pleistocene hemipelagic diatom ooze

and turbidites overlay the newly formed basaltic basement. Hydrothermal fluids ascending through the sediment strata have produced metamorphic alteration of sediments progressively increasing downward from modification of clay mineral assemblages and transformation of biogenic opal-A to opal CT, through greenschist facies of metamorphism. The rocks of greenschist facies demonstrate the most prominent changes in chemical composition as compared to initial sediments. Later dolerite sills thermally impacted the sediments: in the upper contact zone of the sills, they contain less K₂O, Zn, Cu, Rb, and Ba than the unaltered

Figure 1. Tectonic position of the Guaymas Basin (a) and studied site 477/477A(á)



sediments and are depleted in organic carbon. Therefore, at the studied site, the initial sedimentary layer was formed over the new basement under the strong influence of hydrothermal solutions ascending through the sediment strata and the thermal impact of sills.

Alteration of sediments through water-rock interaction leads to transformation in chemical composition of the ascending hydrothermal fluids. Distribution and alteration of major elements has been studied before and is widely overviewed in previous publications, but there is no information about behavior of REEs in sediments.

Methods

During a working visit to IODP core storage in College Station (Texas, USA) we collected 39 samples of sediments from cores 477 & 477A (all levels). A visual description of textures and structures of the sediments was made.

All samples were studied in thin section, as well as by XRD, XRF and wet chemistry, and all samples were divided into size fractions according to international standards. As part of the study, three samples from each geochemical zone were analyzed for

chemical composition (minor elements and REEs) by M. Kastner.

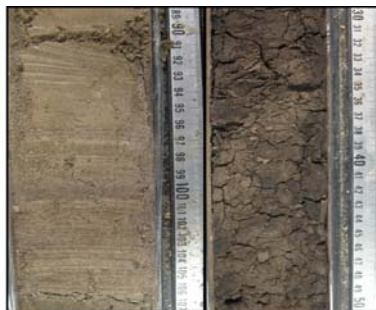


Figure 3. Unaltered sediments from the upper zone.

Results and discussion

This study compared the chemical composition (including REE) of altered rocks from greenschist facies with that of unaltered sediments from the upper part of the core (Figs 3, 4).

We analyzed variations in chemical composition between different size fractions of three samples from the lower part of the core, where the hydrothermally altered zone is situated. During previous work ICP-MS analysis of the three bulk rock samples, fraction <0.001 mm and 0.01-0.001 mm, was completed. During this research we completed ICP-MS analysis of all other fractions: >1mm, 1-0.5mm, 0.5-0.25mm, 0.25-0.1mm, 0.1-0.05mm and 0.05-0.01mm.

The concentrations of minor elements (including REE) from three samples, z-1273, z-2054 and z-2722, were reported to us. Most of the

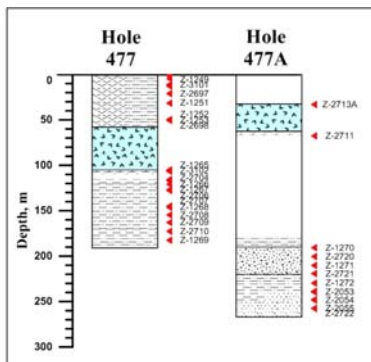


Figure 2. Location of samples

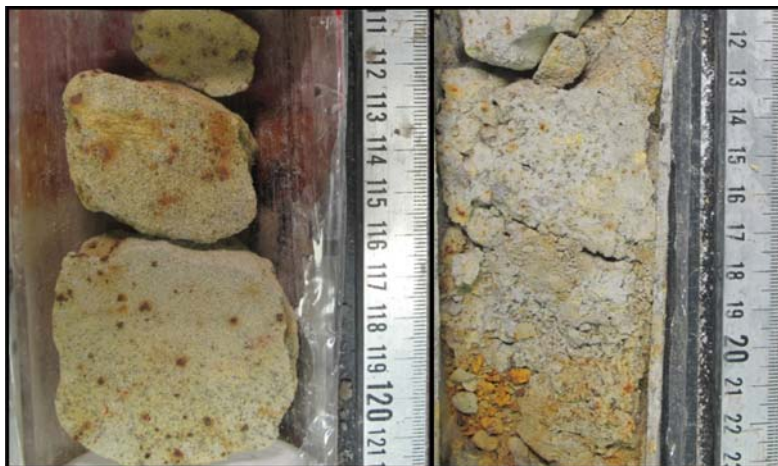


Figure 4. Hydrothermally altered sediments from the greenschist zone.

concentrations of many minor elements (Ni, Ga, Li, Co, Rb, Pb, V, Cr, Zn, U, Hf, Cd, As, Ta, Ag, Bi) are substantial in fine-grained fraction ($<0.001\text{mm}$) which have high rates of occlusion ability. There are high concentrations of such elements as Ni, Co, Cu, Zn, Sc, V, Mo, Bi, Rb, Cr, Zr and Hf in the coarse fraction ($>1\text{ mm}$), which contains hydrothermal sulfide minerals and basalt grains.

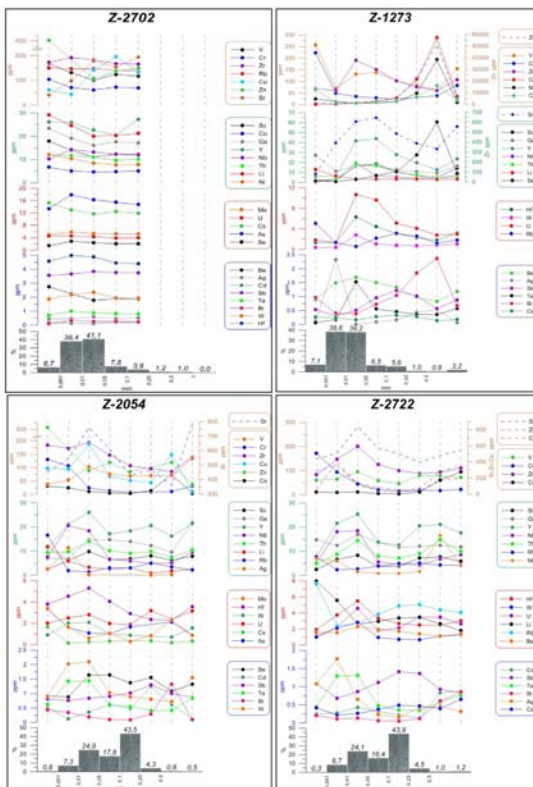
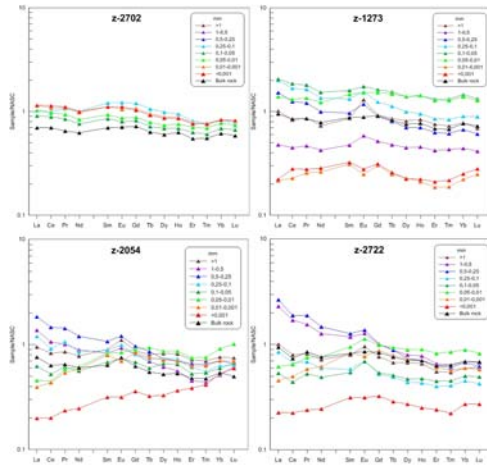
The NASC-normalized REE profiles (Fig.5) show a great difference between sample tracks of altered and unaltered sediments. Sample z-2702 is from the upper zone; its track is rather common and is usual for terrigenous sediments without any substantial anomalies. Tracks of three other samples have positive anomalies of Eu in some fractions which is a characteristic feature of hydrothermally altered rocks. LREEs are concentrated mostly in 1-0.5mm, 0.5-0.25mm and 0.25-0.1mm fractions, while HREEs concentrate in the fraction $<0.001\text{mm}$.

The quantitative behavior of the rare-earth elements during interaction

of hydrothermal solutions through the sedimentary cover in rift basins is not well known. REEs are supposed to be some of the most stable and immobile elements during hydrothermal processes. If NASC-normalized profiles of only bulk rock samples are compared, there is no evidence of their mobility, while REEs in other fractions show that the distribution is more complex. Our future work will be related to the research of mineralogical aspects of each fraction and correlation with REE distribution.

Budget

The total cost of the research was 990 €. This IAS grant was used for the ICP-MS analysis of 6 fractions from the hydrothermally altered zone and upper unaltered zone ($6 \times 3 = 18$ analyses). The cost of one analysis is 2200 rubles (on the date of the payment 1 € = 40 rubles). The analysis was done at the Institute of Problems of Microelectronic Technology and Special Pure Materials of The Russian Academy of Sciences.



Acknowledgements

We gratefully acknowledge the International Association of Sedimentologists (IAS) for the financial support we received to complete the ICP-MS analysis to improve existing data.

References

1. Aubry M-P., Matoba Y., Molina-Cruz A., Schrader H. Synthesis of Leg 64 biostratigraphy. In Curray J.R. et al. Init.Repts DSDP, 64, Pt. 2, 1982. 1057-1064.
2. Becker K. Heat flow studies of spreading center hydrothermal processes [Ph.D. dissert.], University of California, San Diego, 1981, 87p.
3. Curray J.R., Moore D.G. et al. Init.Repts. DSDP. Vol. 64. Part 1 - Washington, 1982. 507 p.
4. Kastner M. Evidence for two distinct hydrothermal systems in the Guaymas Basin // Init.Repts. DSDP. 1982. V. 64. Part 2. P. 1143-1158.
5. Kelts K. Petrology of hydrothermally metamorphosed sediments at deep sea drilling site 477, southern Guaymas Basin rift, Gulf of California // Init. Repts. DSDP. 1982. V. 64. Part 2. P. 1123-1136.
6. Lonsdale P., Bischoff J.L., Burns V.M. et al. A high-temperature hydrothermal deposit on the seabed at a Gulf of California spreading center // Earth and Planet. Sci. Letter. 1980. V. 49. P. 8-20.
7. Moore D.G. Plate-edge deformation and crustal growth, Gulf of California structural province // Geol. Soc. Am. Bull. 1973. N. 84. P. 1883-1906.
8. Niemitz J. Geochemistry of sediments, Leg 64, Gulf of California // Init. Repts. DSDP. 1982. V. 64. Part 2. P. 695-716.
9. Peter J.M. Scott S.D. Mineralogy, composition, and fluid-inclusion microthermometry of seafloor hydrothermal deposits in the southern trough of Guaymas Basin, Gulf of California // Canad. Miner. 1988. V.26. P. 567-587.
10. Von Damm K.L., Edmond J.M., Grant B., et al. Chemistry of submarine hydrothermal solutions at 21°N, East Pacific Rise // Geochem. Cosmochem. Acta. 1985. V. 49. N 11. P. 2197-2220.
11. Von Damm K.L., Edmond J.M., Measures C.J., Grant B. Chemistry of submarine hydrothermal solutions at Guaymas Basin, Gulf of California // Geochem. Cosmochem. Acta. 1985. V. 49. N 11. P. 2221-2237.
12. Williams D.L., Becker K., Lawver L.A., Von Herzen R.P. Heat flow at the spreading centers of the Guaymas Basin, Gulf of California // J. Geophys. Res. 1979. N 84. P. 6757-6796.

*Blinova Elena
Geological Institute of Russian
Academy of Sciences, Moscow
blinova.helen@gmail.com*

STUDENT CORNER

Study of the A13CORG of an early aptian section in The Basque Cantabrian

*BASIN TO SOLVE THE GEOCHEMICAL PROBLEMS CAUSED BY
DIAGENETIC PROCESSES*

IAS POSTGRADUATE GRANT SCHEME REPORT, 2ND SESSION 2012

Introduction

The main subject of my PhD research is the characterization of the Aptian in the central area of the Basque Cantabrian Basin (South of Bilbao city, North of Spain; Fig.1). Recently, there have been several studies focusing on this period in the East (Millán *et al.*, 2009; Millán *et al.*, 2011) and West (Najarro *et al.*, 2011) areas, but the central area has remained somewhat untouched for several years.

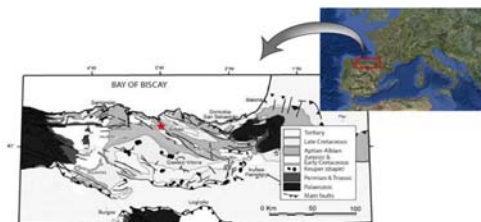
One of the main characteristics of this basin is the expanded sedimentary

record with a thickness for the Aptian of over 1100m. This may allow me to define geological events with greater resolution than that obtained in other basins (Föllmi, 2012) and define new events, which might have a more local origin.

The main goals of this PhD research are:

- ♦ Sedimentologic characterization of the materials.
- ♦ Dating of the materials through biostratigraphy (ammonites and orbitolinids).

Figure 1. Location of studied area.



- ♦ Geochemical characterization of the materials (the $\delta^{13}\text{C}_{\text{inorg}}$, $\delta^{18}\text{O}$ and TOC) to identify global events such as OAE1a.
- ♦ Paleoenvironmental reconstruction.

So far, two complete stratigraphic sections have been studied (Pagasarri and Ganekogorta) in two key locations within the area and up to 12 minor sections to further complete the obtained data. All the materials have been accurately dated, thanks to the ammonites biostratigraphy studied by Prof. Hugh Owen. Over 600 samples have been analyzed ($\delta^{13}\text{C}_{\text{inorg}}$ and $\delta^{18}\text{O}$ and TOC) and the results compared to that obtained in other basins, such as the Vocontian basin (Fernández-Mendiola *et al.*, 2012; Herrle *et al.*, 2010).

However, some of the results obtained from the $\delta^{13}\text{C}_{\text{inorg}}$ have negative values and, therefore, are not reliable. This can be attributed to post-depositional alteration of the isotopic composition of the rock due to geological processes (either the burial depth of the sediment material or the tectonic processes that occurred in the Basque-Cantabrian Basin during the opening of The Bay of Biscay). The analysis of the $\delta^{13}\text{C}_{\text{org}}$ is a way of recovering the original isotopic signal of the Aptian marine water and, therefore, it can be very helpful in correctly defining the paleoclimatic events that took place in this area during this period.

Methods

Three groups of the altered samples correspond to intervals that are of the uttermost importance for the correct characterization of the Aptian in the area, such as the OAE1a and the Early/Late Aptian transition. I have analyzed 48 samples from three intervals:

- ♦ 16 samples from Ganekogorta section: OAE 1a
- ♦ 22 samples from the upper part of the Pagasarri section: Early/Late Aptian transition.
- ♦ 8 samples from the lower part of the Pagasarri section: OAE1a.

These samples were collected during two field trips conducted during the summer of 2010 (Pagasarri section) and the spring-summer of 2012 (Ganekogorta section). The analysis of the $\delta^{13}\text{C}_{\text{org}}$ required decarbonation of the samples, which I personally completed in the laboratories of my own department (Stratigraphy and Palaeontology, Science and Technology Faculty, Basque Cantabrian University) to reduce the final expenses. Afterwards, the samples were sent to the laboratories of a Coruña, where the $\delta^{13}\text{C}_{\text{org}}$ was analyzed.

Expenses

The material to prepare the samples was provided by the laboratory of the Stratigraphy and Paleontology department. The Immunology, Microbiology and Parasitology department lent me the centrifuge that I needed for one of the steps in the decarbonation process. The University of the Basque Country paid for the expenses derived from the shipment of the samples.

Therefore, all the expenses correspond to the $\delta^{13}\text{C}_{\text{org}}$ analyses of the 48 samples (20,5€/sample) conducted at the laboratories of A Coruña University, which total 984 € (IVA included).

Results

The $\delta^{13}\text{C}_{\text{org}}$ results received from the A Coruña laboratories are promising. They have been plotted (Figs 2 and 3) and although further

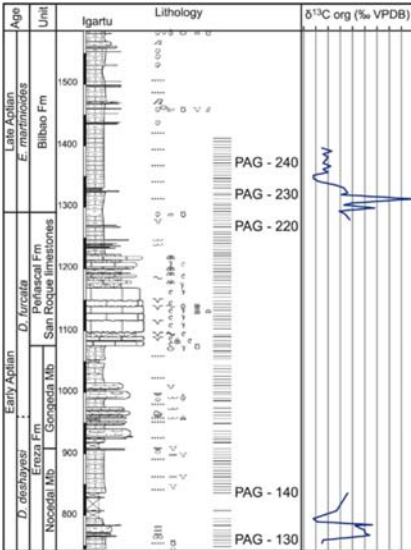


Figure 2. Selected intervals from the Pagasarri section

study is needed to locate established events (Ej.: OAE1a, (Menegatti *et al.*, 1998)), the results seem to be consistent with previous sedimentologic and isotopic results

from these sections.

There does not seem to be any trace of diagenetic alteration of the $\delta^{13}\text{C}_{\text{org}}$ values. Therefore, this isotopic signal will be used in these intervals instead

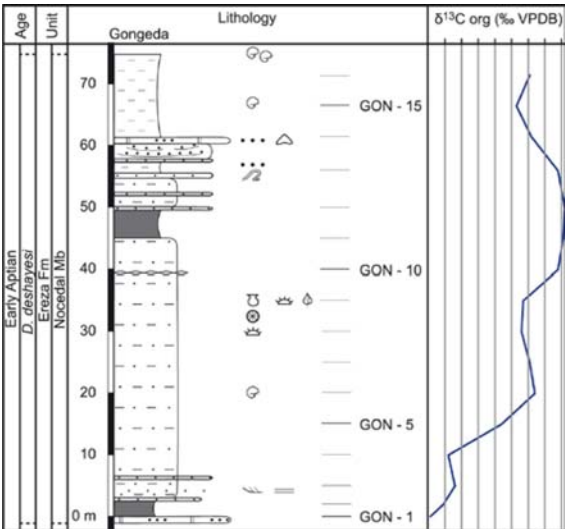


Figure 3. Selected interval from the Ganekogorta section.

of the one obtained from the $\delta^{13}\text{C}_{\text{inorg}}$ values. Thanks to that, the OAE1a and the Early/Late Aptian transition in this area will be better characterized in future publications.

Future work

The results will be published in two articles. The first article describes the sedimentology, biostratigraphy and chemostratigraphy of the Pagasarri section and is due to be sent to *Cretaceous Research* in the following weeks. The second article will address a similar topic with data from the Ganekogorta section. Both of these articles will be central pieces of work contributing to my PhD Thesis.

It is also likely that a poster from the Pagasarri section with the isotopic curves will be sent to the 30th IAS meeting in Manchester, although nothing has yet been decided.

Acknowledgements

Firstly, I want to thank the International Association of Sedimentology for awarding me with this grant that has allowed to me to solve crucial problems in my investigation. Secondly, I want to thank the staff at A Coruña laboratories for their help with the organization of the samples and the promptness in sending the results. Finally, I want to thank my own department (Stratigraphy and Paleontology) and the Immunology, Microbiology and Parasitology department at the University of the Basque Country for the material to prepare the samples.

Bibliography

Fernández---Mendiola, P.Á., Mendicoa, J., Owen, H.G., Hernandez, S., Millán, M.I., García---Mondéjar, J., 2012. Black shales of the Early and Late Aptian (Bilbao, Spain): C---isotopes and TOC, in: Fernández, L.P., Fernández, A., Cuesta, A.,

Bahamonde, J.R. (Eds.), *Resúmenes extendidos del VIII Congreso Geológico de España*. CD anexo a *Geo---* Temas 13 pp. 80---83.

- Föllmi, K.B., 2012. Early Cretaceous life, climate and anoxia. *Cretaceous Research* 35, 230---257.
- Herrle, J.O., Kössler, P., Bollmann, J., 2010. Palaeoceanographic differences of early Late Aptian black shale events in the Vocontian Basin (SE France). *Palaeogeography, Palaeoclimatology, Palaeoecology* 297, 367---376.
- Menegatti, A.P., Weissert, H.J., Brown, R.S., Tyson, R.V., Farrimond, P., Strasser, A., Caron, M., 1998. High---resolution delta C---13 stratigraphy through the early Aptian «Livello Selli» of the Alpine Tethys. *Paleoceanography* 13, 530---545.
- Millán, M.I., Weissert, H.J., Fernández---Mendiola, P.Á., García---Mondéjar, J., 2009. Impact of Early Aptian carbon cycle perturbations on evolution of a marine shelf system in the Basque---Cantabrian Basin (Aralar, N Spain). *Earth and Planetary Science Letters* 287, 392---401.
- Millán, M.I., Weissert, H.J., Owen, H., Fernández---Mendiola, P.A., García---Mondéjar, J., 2011. The Madotz Urganian platform (Aralar, northern Spain): Paleocological changes in response to Early Aptian global environmental events. *Palaeogeography, Palaeoclimatology, Palaeoecology* 312, 167---180.
- Najarro, M., Rosales, I., Moreno---Bedmar, J.A., de Gea, G.A., Barrón, E.J., Company, M., Delanoy, G., 2011. High---resolution chemo--- and biostratigraphic records of the Early Aptian oceanic anoxic event in Cantabria (N Spain): Palaeoceanographic and palaeoclimatic implications. *Palaeogeography, Palaeoclimatology, Palaeoecology* 299, 137---158.

Jone Mendicoa Larrauri
University of the Basque Country
(Spain)
jonemendicoa@gmail.com

SUPER SEDIMENTOLOGICAL OUTCROPS

THE GHIAIE BEACH (ELBA ISLAND, ITALY)

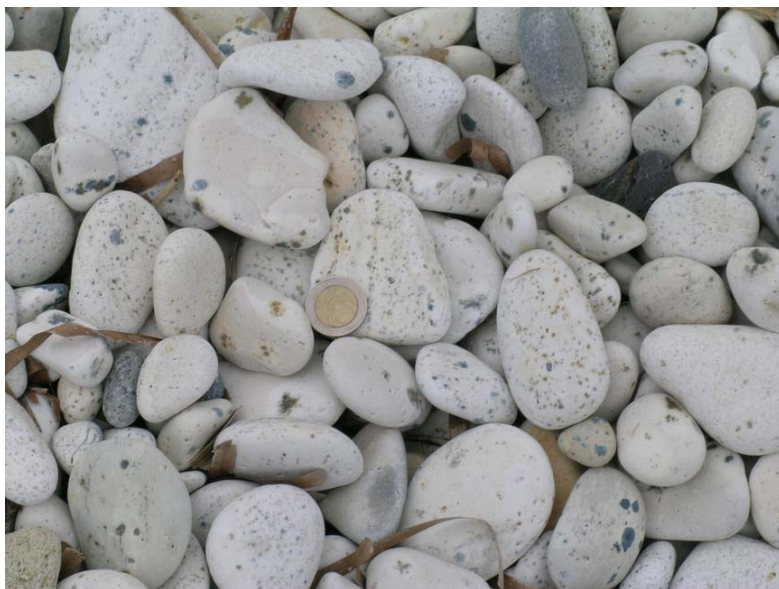


Figure 1. Eurite clasts of the Ghiaie beach

The front cover picture of Newsletters 244-249 images Eurite clasts (Fig. 1). These are the main components of the «Ghiaie Beach» located on the northern coast of Elba Island (Tuscan Archipelago, Italy; Fig.2) close to the main city of Porto Ferraio (Fig. 3). The Eurite is a tourmaline-bearing aplite, normally pale and characterized by a

fine-grained, homogeneous texture, locally with millimeter-size phenocrysts of quartz, feldspar, and muscovite. At some localities (e.g., Porto Ferraio; Fig. 2) blue-black crystals and aggregates of tourmaline up to 10 cm in diameter are abundant, yielding distinctive clasts (Fig. 1). The Eurite is classified as a subalkaline and

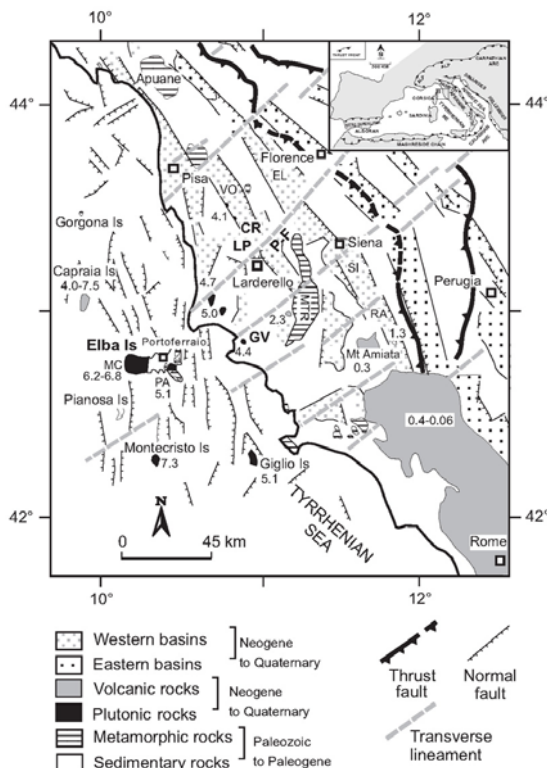


Figure 2. Simplified geological map of Tuscany, Italy, showing major Tertiary basins and magmatic centers, with ages of igneous activity in millions of years before present. In local usage, western basins are termed «central» and eastern basins are termed «peripheral», with respect to major thrust faults. La Pertica (LP), Cecina River (CR), and Gavorrano (GV) areas are basins where Late Miocene-Early Pliocene conglomerates bearing Euri-te clasts crop out.

Magmatic centers on Elba Island are Monte Capanne (MC) and Porto

Azzurro (PA). MTR = Middle Tuscany Ridge; Main Tertiary basins of Tuscany RA = Radicofani, SI = Siena Basin, VO = Volterra Basin; P-F = Piombino-Faenza line is one of the main transverse lineament crossing the Northern Apennines. Inset shows Tuscany within western Europe and the mountain chains of the Mediterranean region. Modified after Pascucci et al. (2006).

peraluminous alkali-feldspar granite that was affected by hydrothermal alteration of the feldspar. The Euri-te intrusions of Elba Island (Figs 4, 5) have been dated at about 7.9 Ma; they underwent hydrothermal alteration at 6.7 to 6.8 Ma (Pascucci et al., 2006 and references therein).

It is interesting to know that in Greek mythology Euri-te was the name

of Ippodamante's daughter, one of the heroes of Troy and the son of the King Priamus.

To receive the PDF of the paper on Euri-te or other info, please contact Vincenzo Pascucci (pascucci@uniss.it)

PASCUCCI, V., GIBLING, M.R. & SANDRELLI, F. (2006) - Valley formation and filling in response to Neogene magmatic doming of Elba



Figure 3. Ghiaie beach, Porto Ferraio, Elba Island.

Island, Tuscany, Italy. In: Incised
Valleys in time and space (Eds
Dalrymple, R.W., Leckie, D.A., &
Tillman, R.W.), SEPM Special

Publication No. 85, 327-344
(International book) (ISI).

Vincenzo Pascucci

IAS Special Publications with 50 % discount

The Special Publications from the IAS are a set of thematic volumes edited by specialists on subjects of central interest to sedimentologists. Papers are reviewed and printed to the same high standards as those published in *Sedimentology* and several of these volumes have become standard works of reference.

IAS and Wiley are offering IAS Special Publications at 50 % discount... that is an additional 10 % off of the normal membership discount ! The discount

code you need for this has been mailed to you a few days ago.

Read Wiley's announcement or go straight to the IAS website to get the discount code and order your publication. Don't forget to sign in first!

This discount code also entitles you to a discount of 35 % on all other Wiley books in earth, space and environmental science.

The discount code will be valid until April 2014 !

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 research proposal 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)

FOR THE 2ND SESSIONS 2013 THE FOLLOWING STUDENTS ARE GRANTED:

<i>NAMES</i>	<i>MAIL ADDRESSES</i>	<i>NAMES SUPERVISORS</i>	<i>ALLOCATED</i>
Chelsea Pederson	cpederson@rsmas.miami.edu	Jim Klaus	1000
Daniel Petrash	petrash@ualberta.ca	Kurt Konhauser	1000
Mitch D'Arcy	mittchall.darcy06@imperial.ac.uk	Dr Alexander Whittaker	954
Huan Cui	hcui@umd.edu	Alan Jay Kaufman	737
Yunlong Zhang	ylong.zhang@yahoo.com	Zhidong Bao	1000
Lara Pérez*	larafperez@gmail.com	F. Javier Hernández-Molina	1000
Filiz Afsar	filiz.afsar@geo.uni-goettingen.de	Hildegard Westphal	920
Ashwin Arora	ashwinarora.iitb@gmail.com	Santanu Banerjee	1000
Haylay T. Gebretsadik*	haylish@gmail.com	Richard Paul Major	1000
Fernanda Velososo	fe_geo@hotmail.com	Maria Nieves Melendez Hevia	1000

CALENDAR

Mid-Mesozoic: The Age of Dinosaurs in Transition

*30th April – 5th May
2014
Fruita, Colorado & Green
River,
Utah (USA)*

James I. Kirkland Ph. D.,
jameskirkland@utah.gov
[http://www.utahpaleo.org/mid-mesozoic-
conference.html](http://www.utahpaleo.org/mid-mesozoic-conference.html)

Central European Meeting of Sedimentary Geology*

*9th–13th June
2014
Olomouc,
Czech Republic*

Ondrej Babék
babek@prfnw.upol.cz
www.sedgeol.upol.cz

Sedimentary Provenance Analysis (SPA) Short Course*

*23rd–25th June
2014
Göttingen
Germany*

Guido Meinhold
guido.meinhold@geo.uni-goettingen.de



19th International Sedimentological Congress*

18th -24th August
2014
Geneva, Switzerland

Daniel Ariztegui
Daniel.Ariztegui@unge.ch,
<http://www.sedimentologists.org/meetings/isc>

XIV Argentinian Meeting of Sedimentology (RAS)*

1st-5th September
2014
Puerto Madryn (Patagonia)
Argentina

J. Marcelo Krause
mkrause@mef.org.ar
www.xivras2014.ar

Geological Society of Italy*

10th-12th September
2014
Milano
Italy

Giovanna Della Porta
giovanna.dellaporta@unimi.it
www.geoscienze2014.it

2nd Deep-Water Circulation Conference*

10th-12th September
2014
Ghent
Belgium

David Van Rooij
david.vanrooij@ugent.be
www.2DWC.ugent.be

6th International Symposium on Lithographic Limestone and Plattenkalk*

15th-19th September
2014
Museo del Desierto,
Saltillo,
Mexico

Christina Ifrim
ISLLP2014@geow.uni-heidelberg.de
<http://isllpsaltillo.uni-hd.de>

Interim Colloquium of the Regional Committee of Neogene Stratigraphy (RCMNS)*

*25th-28th September
2014
Torino
Italy*

Francesco De La Pierre
Francesco.delapierre@unito.it
www.rcmns-turin2014.weebly.com

4th International Palaeontological Congress (Mendoza, Argentina)*

*28th September-3rd October
2014
Mendoza
Argentina,*

Cecilia Benavente
cebenavente@gmail.com
www.ipc4mendoza2014.org.ar

5th International MAAR Conference*

*17th -21st November
2014
Querétaro
Mexico*

Gerardo Carrasco Nuñez
gerardoc@dragon.geociencias.unam.mx

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



This Newsletter has been designed by
Proedex s.l. Francisco Silvela 27
28028 Madrid, Spain
editorial@proedex.com

Contributions to be sent to:
Vincenzo Pascucci
IAS General Secretary
Dip. to Scienze della Natura
e del Territorio
Università di Sassari
Via Piandanna, 4
07100 Sassari, Italy
Tel.: +39 079228685
pascucci@uniss.it

