

SPANISH NATIONAL COMMITTEE REPORT 2014

1.- Chairman and Secretary of the Spanish National Committee

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2.- Members of the Spanish National Committee

Dr. Roger Urgeles Esclasans (585); Dr. José Antonio Gámez Vintaned (587); Dr. Javier Lario (588); Dra. Jau-Chyn Liao Chen* (596), Dr. Silvino Castaño Castaño (618); Dr. Javier Hernández Molina (619).

*Dra. Liao is the secretary of the Spanish Working Group that was led by the current President. The leader of IGCP-596 was appointed as President of the National Committee, consequently Dra. Liao acts as representative of the IGCP-596 in the Committee.

3.- IGCP Projects with participation of Spanish Working Groups

3.1 Projects with Spanish project co-leader

IGCP-585: Earth's Continental Margins: Assessing the Geohazard from Submarine Landslides

Dr. Roger Urgeles

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Abstract : During 2014 the project has continued to enlarge the international participant. Current IGCP-585 has 153 active members from 30 countries, a four times increase in participants since the project started. Members of IGCP-585 submitted a proposal for an Initial Training Network on "Submarine LANDslides and Their impact on European continental margins" (SLATE) to the EC H2020 program. The proposal was ranked 14 out of 110 proposals and the latest information

indicated that it is on the reserve list. IODP APL proposal on “Creeping Gas Hydrate Slides in the Hikurangi margin off New Zealand” has also been submitted.

The project held a third workshop in November on scientific drilling to assess geohazards from submarine landslides in the Ulleung Basin, East Sea with KIGAM in South Korea. Pre-proposal will be submitted by April next year. Proposals that remain active within the IODP system where members of IGCP-585 are participating include: 796 Full (Kopf *et al.*), Landslide geohazards: Testing multiple trigger mechanisms at the Ligurian slope (W’Mediterranean Sea), SEP and 811 Full (Flemings *et al.*), The impact of recent warming and pore pressure rebound on slope instability (Cape Fear-Blake Ridge), SEP.

Meeting organization

EGU General Assembly 2014, Vienna, 27.04 – 02.05.2014. session: GM8.2/SSP3.2.3/TS4.9 Seafloor- and Subseafloor Expression of Tectonic and Geomorphic Processes, 20 abstracts from 13 different countries (Australia, China, Denmark, France, Greece, Germany, Italy, Norway, Turkey, Russia, South Africa, Spain, UK); ~ 60 people attended the oral session. All abstracts are published online at the EGU website at: <http://meetingorganizer.copernicus.org/EGU2014/session/14251>

International Sedimentological Congress 2014, Geneva (Switzerland), August 18-22, 2014. Session S7: Turbidity current, subaqueous mass flow and mass movement processes - recent insights and future research directions, 26 abstracts from 16 different countries were presented as part of this special session. Overall there was a high interest in the session, with ~ 120 people attending the oral session and lively discussions in front of the posters.

2nd Deep-Water Circulation Congress, Ghent (Belgium), September 10 to 12, 2014, session: “The influence of the lateral and temporal variability of contourite sedimentation on slope (in)stability”, 11 abstracts from 9 different countries (Belgium, China, Denmark, France, Italy, Spain, Sweden, UK); ~ 90 people attended the oral session.

AGU Fall Meeting 2014 (San Francisco, CA, 15-19 December 2014) session: Marine Geohazards ID#: 2208, 56 abstracts from 16 different countries (Australia, Belgium, Canada, China, France, Germany, Italy, Japan, New Zealand, Norway, Portugal, Spain, Switzerland, Taiwan, UK, USA). All abstracts are published online on the AGU website at: <https://agu.confex.com/agu/fm14/webprogrampreliminary/Session2208.html>

List of most important publications (including maps)

The IGCP-585 community actively publishes research findings in peer-reviewed journals of the highest standard. Unfortunately it is impossible to keep track of all publications by the 146 project members. Below the publications that are directly linked with formal IGCP-585 activities are reported:

a) could not have been published were it not for this project

- Ai, F., Förster, A., Stegmann, S., Kopf, A., 2014a. Geotechnical Characteristics and Slope Stability Analysis on the Deeper Slope of the Ligurian Margin, Southern France, in: Sassa, K., Canuti, P., Yin, Y. (Eds.), *Landslide Science for a Safer Geoenvironment*. Springer International Publishing, pp. 549–555.
- Ai, F., Kuhlmann, J., Huhn, K., Strasser, M., Kopf, A., 2014b. Submarine Slope Stability Assessment of the Central Mediterranean Continental Margin: The Gela Basin, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 225–236.
- Alonso, B., Ercilla, G., Garcia, M., Vázquez, J.T., Juan, C., Casas, D., Estrada, F., D'Acromont, E., Gorini, C., Moumni, B.E., Farran, M., 2014. Quaternary Mass-Transport Deposits on the North-Eastern Alboran Seamounts (SW Mediterranean Sea), in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 561–570.
- Alteriis, G. de, Scotto, A.S. di, Chiocci, F.L., Ramondini, M., Violante, C., 2014. The Case of Ischia Underwater Debris Avalanche (Italy, Tyrrhenian Sea) and Its High Mobility, in: Lollino, G., Manconi, A., Locat, J., Huang, Y., Artigas, M.C. (Eds.), *Engineering Geology for Society and Territory - Volume 4*. Springer International Publishing, pp. 227–232.
- Amsler, H.E., Reusser, E., Milliken, K., Strasser, M., 2014. Elemental Distribution and Microfabric Characterization Across a Buried Slump Scar: New Insights on the Long-Term Development and Reactivation of Scar Surfaces from a Microscopic Perspective, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 23–32.
- Behrmann, J.H., Völker, D., Geersen, J., Harders, R., Weinrebe, W., 2014. Size-Frequency Relationship of Submarine Landslides at Convergent Plate Margins: Implications for Hazard and Risk Assessment, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 165–175.
- Benac, Č., Jovančević, S.D., Ružić, I., Vivoda, M., Peranić, J., 2014. Marine Erosion and Slope Movements: SE Coast of the Krk Island, in: Sassa, K., Canuti, P., Yin, Y. (Eds.), *Landslide Science for a Safer Geoenvironment*. Springer International Publishing, pp. 563–567.
- Budillon, F., Cesarano, M., Conforti, A., Pappone, G., Martino, G.D., Pelosi, N., 2014a. Erratum: Submarine Mass Movements and Their Consequences, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. E1–E13.
- Budillon, F., Cesarano, M., Conforti, A., Pappone, G., Martino, G.D., Pelosi, N., 2014b. Recurrent Superficial Sediment Failure and Deep Gravitational Deformation in a Pleistocene Slope Marine Succession: The Poseidonia Slide (Salerno Bay, Tyrrhenian Sea), in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 273–283.

- Casalbore, D., Bosman, A., Martorelli, E., Sposato, A., Chiocci, F.L., 2014a. Mass Wasting Features on the Submarine Flanks of Ventotene Volcanic Edifice (Tyrrhenian Sea, Italy), in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 285–293.
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- Ceramicola, S., Praeg, D., Coste, M., Forlin, E., Cova, A., Colizza, E., Critelli, S., 2014a. Submarine Mass-Movements Along the Slopes of the Active Ionian Continental Margins and Their Consequences for Marine Geohazards (Mediterranean Sea), in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences, Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 295–306.
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- Fink, H.G., Strasser, M., Römer, M., Kölling, M., Ikehara, K., Kanamatsu, T., Dinten, D., Kioka, A., Fujiwara, T., Kawamura, K., Kodaira, S., Wefer, G., 2014. Evidence for Mass Transport Deposits at the IODP JFAST-Site in the Japan Trench, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences*, *Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 33–43.
- Georgiopoulou, A., Benetti, S., Shannon, P.M., Sacchetti, F., Haughton, P.D.W., Comas-Bru, L., Krastel, S., 2014. Comparison of Mass Wasting Processes on the Slopes of the Rockall Trough, Northeast Atlantic, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences*, *Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 471–480.
- Grall, C., Henry, P., Westbrook, G.K., Çağatay, M.N., Thomas, Y., Marsset, B., Borschneck, D., Saritas, H., Cifçi, G., Géli, L., 2014. Mass Transport Deposits Periodicity Related to Glacial Cycles and Marine-Lacustrine Transitions on a Poned Basin of the Sea of Marmara (Turkey) Over the Last 500 ka, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences*, *Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 595–603.
- Gross, F., Krastel, S., Chiocci, F.L., Ridente, D., Bialas, J., Schwab, J., Beier, J., Cukur, D., Winkelmann, D., 2014. Evidence for Submarine Landslides Offshore Mt. Etna, Italy, in: Krastel, S., Behrmann, J.-H., Völker, D., Stipp, M., Berndt, C., Urgeles, R., Chaytor, J., Huhn, K., Strasser, M., Harbitz, C.B. (Eds.), *Submarine Mass Movements and Their Consequences*, *Advances in Natural and Technological Hazards Research*. Springer International Publishing, pp. 307–316.
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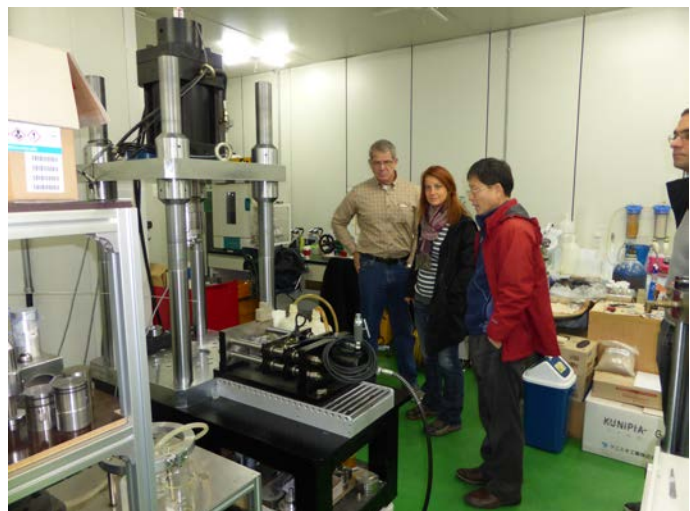
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Greg Moore, Kate Taladay, Nabil Sultan and Se- Joo Kim in the Rock Mechanics Laboratory at Kigam (Korea), November 2014, post-workshop.

IGCP-619: Contourites: geological record of ocean-driven paleoclimate, accomplice of submarine landslides and reservoir of marine geo-resources

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Abstract: In March 2102 the UNESCO IGCP-619 Project: “Contourites: processes & products” (*Contourites: geological record of ocean-driven paleoclimate, accomplice of submarine landslides and reservoir of marine geo-resources*) was accepted and funded (2012-2017). In this Project the institutions involved are the following: Heriot-Watt Univ. (U), Ghent Univ. (Belgium), Univ. Vigo (Spain), OGS (Italy), ICM-CSIC (Spain), LNEG (Portugal) & PETROBRAS (Brazil). Responsible researchers are: D.A.V. Stow, D. Van Rooij, F. J. Hernández-Molina, M. Rebesco; P. Puig, A. Voelker, A. Viana. The international leader is Dr. Dorrik A. V. Stow (Heriot-Watt University) and the Spanish national leader is *Dr. F. Javier Hernández-Molina* (currently at Royal Holloway University of London, UK).

D. Van Rooij (Ghent Univ.) is the new coordinator of the UNESCO IGCP-619 Project. He submitted a report to the IGCP Board on the past and planned activities of IGCP 619, in absence of a formal report. He informed that the formal support from IGCP 619 has been withdrawn due to the non-response of the previous coordinator, Dr. Dorrik A. V. Stow (Heriot-Watt University). Hereby, we wish to demonstrate that, even without having access to the funding, we have tried to pursue in the best possible way the objectives that have been laid out upon the original submission of the IGCP 619 proposal. IGCP Board will discuss our request during their next board meetings. In spite of this situation the Spanish Working Group has been actively participating in many actions and has contributed during 2014 with research meetings, publications in journals and congress.

Publications and contributions to congresses

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- Llave, E., Hernández-Molina, F.J., Brackenridge, R., Stow, D.A.V., 2014. Pliocene and Quaternary Sandy deposits along the proximal and sector of the Gulf of Cádiz contourite depositional system: preliminary results. IODP Expedition 339 2nd Post-cruise Meeting. Tarifa (Cádiz, Spain) from 1st to 6th of June 2014. Abstract volume.
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- Nishida, N., Hernández-Molina, F.J., Stow, D.A.V., Alvarez-Zarikian, C. and IODP Exp. 339 Scientists, 2014. Microstructure of muddy contourite from the Gulf of Cadiz. Annual Meeting of the Sedimentological Society of Japan. Sedimentological Society of Japan. Yamaguchi (Japan), 14-17 March, 2014. Abstract volume.
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- Puig, P., Palanques, A., Martín, J., Ribó, M., Guillén, J. 2014. Benthic storms in the north-western Mediterranean continental rise caused by deep dense water formation. 2nd Deep Water Circulation Congress: The Contourite Log-Book. 10-12 September, Ghent, Belgium. Book of Abstracts: 27-28.
- Ribó, M., Puig, P., Van Rooij, D., Muñoz, A., Urgeles, R. 2014. Large sediment waves on the Gulf of Valencia continental margin (NW Mediterranean): Internal structure and evolution. 2nd Deep Water Circulation Congress: The Contourite Log-Book. 10-12 September, Ghent, Belgium. Book of Abstracts: 57-58.
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- Roque, C., Ducassou, E., Nishida, N., Sloss, C., Hernández-Molina, F.J., Stow, D.A.V., Alvarez-Zarikian, C. and IODP 339 Scientists, 2014. Soft-sediments deformation within Pliocene mass-transport deposits of Faro drift (Sites U1386 C and U1387C). IODP Expedition 339 2nd Post-cruise Meeting. Tarifa (Cádiz, Spain) from 1st to 6th of June 2014. Abstract volume.
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- Sierro, F. J., Hodell, D. A., Andersen, N., Flores, J.A. Jiménez-Espejo, F., Bahr, A., Hernandez-Molina, F.J., Ducassou, E., 2014. Collapses of the Mediterranean Outflow at times of sapropel deposition in the Eastern Mediterranean. IODP Expedition 339 2nd Post-cruise Meeting. Tarifa (Cádiz, Spain) from 1st to 6th of June 2014. Abstract volume.
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- Stow, D.A.V., Hernandez-Molina, F.J., Alvarez-Zarikian, C. and the Shipboard Scientific Party, 2014. New Advances in Contourite Concepts. IODP Expedition 339 2nd Post-cruise Meeting. Tarifa (Cádiz, Spain) from 1st to 6th of June 2014. Abstract volume.
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of Cadiz. IODP Expedition 339 2nd Post-cruise Meeting. Tarifa (Cádiz, Spain) from 1st to 6th of June 2014. Abstract volume.

Vandorpe, T., Van Rooij, D., Lebreiro, S., Alonso, B., Mena, A., Cnudde, V., Hernandez-Molina, F.J. 2014. CT-images of contourite cores: An onset to processing and data interpretation. 2nd Deep Water Circulation Congress: The Contourite Log-Book. 10-12 September, Ghent, Belgium. Book of Abstracts: 129-130.

Vázquez, J.T., Palomino, D., Fernández-Puga, M.C., Fernández-Salas, L.M., Fraile-Nuez, E., Medialdea, T., Sánchez-Guillamón, O., Somoza, L., and SUBVENT Team. 2014. Seafloor geomorphology of the Passage of Lanzarote (West Africa Margin): Influences of the oceanographic processes. 2nd Deep Water Circulation Congress: The Contourite Log-Book. 10-12 September, Ghent, Belgium. Book of Abstracts: 125-126.

Voelker, A. H.L. Francisco Javier Jimenez-Espejo, Andre Bahr, Gary Acton, Ana Alberto, Andreia Rebotim, Emilia Salgueiro and Ursula Roehl, 2014. What Drives Mediterranean Outflow Water Variability during the Mid-Pleistocene Transition and Early Pleistocene at IODP Site U1387 in the Gulf of Cadiz? AGU 2014 AGU Fall Meeting, 15-19 December 2014, San Francisco, USA. Abstract volume.

Voelker, A.H.L., Jimenez-Espejo, F.J., Bahr, A., Acton, G.D., Rebotim, A., Salgueiro, E., Röhl, U., Escutia, C. 2014. Mediterranean Outflow Water changes in the Gulf of Cádiz during the Mid-Pleistocene Transition - The role of insolation. 2nd Deep Water Circulation Congress: The Contourite Log-Book. 10-12 September, Ghent, Belgium. Book of Abstracts: 29-30.

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Meeting organisation

European Geosciences Union General Assembly 2014 (EGU), Vienna (Austria) 27 April – 02 May 2014: A specific session was organised: OS2.6: “Climatic causes and consequences of Mediterranean-Atlantic gateway exchange from Miocene to present”. *Convener*: R. Flecker (Bristol Univ. UK) *Co-Conveners*: F.J. Hernández Molina (RHUL, UK). Link: <http://meetingorganizer.copernicus.org/EGU2014/session/15305>.

The **IODP Expedition 339 2nd Post-cruise Meeting** for expedition participants and shorebased scientists in Tarifa (Cádiz, Spain), 1st to 6th of June 2014. The main aim of this international meeting was the presentation and integration of the expedition results, focused on the Late Miocene to present sedimentary record. Organising committee: F.J. Hernández-Molina (RHUL, UK); D.A.V. Stow (Heriot-Watt Univ., UK); C.A. Alvarez-Zarikian (IODP-Texas A&M Univ., USA); E. Llave (IGME, Spain); C. Roque (IPMA, Portugal); F.J. Sierro (Univ. de Salamanca, Spain); F. Jiménez-Espejo (JAMSTEC, Japan) and N. Sandoval (SECEGSA, Spain). Around 67 researchers, belong to 13 countries and four continents, participated during these 6 days of meeting in Spain, which was divided in a pre-meeting field trip (1st-3rd of June) and the meeting conference in Tarifa (4th-6th of June). A total of 68 abstracts were presented. For 2015 is being coordinating an Elsevier *Virtual Special Issue (VSI)* with two different volumes (one in Global and Planetary Changes (GPC), one in

Marine Geology (MG)) unified into one “Virtual Special Issue”. Around 52 manuscripts have been proposed for this VSI following the 2nd IODP 339 Post-cruise meeting: 29 for being submitted in the GPC volume and 23 in the MG volume.

VOLUME 1. Global and Planetary Changes (GPC)

Titled: PALEOCEANOGRAPHIC SIGNIFICANCE OF THE MEDITERRANEAN OUTFLOW WATER AND ITS GLOBAL IMPLICATIONS

Invited editors: D. Hodell; D.A.V. Stow; F. J. Hernández-Molina & C.A. Álvarez-Zarikian

VOLUME 2. Marine Geology (MG)

Titled: STRATIGRAPHIC AND SEDIMENTARY SIGNIFICANCE OF THE MEDITERRANEAN OUTFLOW WATER AND ITS CONCEPTUAL IMPLICATIONS

Invited editors: F. J. Hernández-Molina; D.A.V. Stow & C.A. Álvarez-Zarikian

2nd Deep-Water Circulation Congress in Ghent (Belgium). 10th -12th September 2014. <http://www.2dwc.ugent.be> . Since the first Deep-Water Circulation Congress: Processes and Products, in Baiona, Spain (16-18 June, 2010), the 2nd Deep-Water Circulation Congress at 2014 has laid the base for renewed collaborations, international partnerships and a number of topical publications related to the following main topics:

- The coupling between (physical) oceanographic processes and contouritic sedimentation
- The vital role of contouritic processes in the initiation, maintenance and decay of deep-water ecosystems (co-sponsored by COCARDE®)
- The influence of the lateral and temporal variability of contourite sedimentation on slope (in)stability (co-sponsored by the IGCP-585 E-MARSHAL project)
- The economic relevance of contourites within hydrocarbon systems, as well as in the formation process of polymetallic nodules

A Marine Geology special issue on the 2nd Deep-Water Circulation Congress is being coordinating for 2015 and around 30 manuscripts are going to be submitted.

AGU 2014 AGU Fall Meeting (15-19 December 2014, San Francisco, USA). Organisation of the Session ID: 1781 “The palaeoceanographic value of contourite archives” by Dr. David Van Rooij (*Ghent University, Ghent, Belgium*) and Dr. Brian Romans (*Virginia Tech., USA*).

Ph.D. as result of the SWG-IGCP 619:

A. Mena Rodriguez. “Paleoceanography and paleoclimatic evolution of the Galicia Interior Basin (NW Iberian Peninsula) during the past 60ka”. Universidad de Vigo, 10th January 2014. Supervisor: *Dr. G. Francés Pedraz (Univ Vigo)*.

R. Brackenridge. “Contourite sands: characterisation, identification and hydrocarbon potential” Heriot-Watt Univ. (Edinburgh, UK). In preparation (to be finished by March-April 2014). Supervisor:

D.A.V. Stow (Heriot-Watt Univ.) and *F.J. Hernández-Molina* (RHUL, UK).

L. Pérez Felicidad. “Stratigraphy stacking pattern and evolution of the Scotia Sea (Antarctica)”. Univ. Granada- CSIC (IACT). December 2014. Supervisor: *Dr. A. Maldonado* (IACT, CSIC) and *F.J. Hernández-Molina* (RHUL, UK).

Planned activities for 2015

Next year the SWG will (co)organise the following symposia:

RCMNS interim colloquium “Mediterranean – Atlantic Gateways (Neogene to present)”, 5th-8th May, Rabat (Morocco), <http://www.mediterraneanatlanticgateways.net/>. Organized by R. Flecker (Bristol Univ. UK) and F.J. Hernández Molina (RHUL, UK).

VIIIth International Symposium on the Iberian Atlantic Margin MIA15 (<http://www.ma.ieo.es/MIA15/>), to be held on September 21 – 23, in Málaga, Spain, which is being organized by the Spanish Institute for Oceanography (<http://www.ieo.es/>) with the support of national and international institutions. A thematic session is planned about “Morphodepositional systems and deep sea water circulation”, which is related to the IGCP 619 project.

Besides these two congresses, a field trip is planning in Cyprus for visiting some contourite outcrops.

The SWG will celebrate its national meeting in September 2015.

Web page of IGCP 619

During 2014 we have been working to update the web page related to the IGCP-619 Project <http://www.contourites.org/>



Group photo (September 2014) of the 2nd Deep-Water Circulation Congress in Ghent (Belgium).

3.2. Projects with active working groups.

IGCP Project 587, “*Of Identity, Facies and Time, the Ediacaran (Vendian) Puzzle*”

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Abstract: IGCP project 587 is the successor of project 493, hence the 493 Spanish Working Group (SWG) is also involved in this project. The group is composed of twenty-one researchers from ten public Spanish institutions, one Russian public institution and one private Malaysian institution; they are specialists on Precambrian and lower Palaeozoic stratigraphy, geochemistry, palaeontology, petrology, sedimentology, tectonics and volcanology of the Iberian Peninsula, Siberia and Australia. Results of the research which were published during 2014 focused on palaeontological aspects of the Cambrian explosion that succeeded the Neoproterozoic biosphere, including stratigraphic information. Palaeontological groups included trilobites, small shelly fossils and ichnofossils from the Iberian Peninsula (for which their microstructure was studied, and biostratigraphic and palaeobiologic affinities were discussed), as well as early Cambrian soft-bodied metazoans (vetulicolians) from Australia. Three special volumes on palaeoichnology and on palaeontological sites of exceptional preservation were produced, as well as one dissemination paper dealing with a new museum -the first in Spain dedicated to the Cambrian Explosion of Life -, in which production several members of the SWG were involved.

Publications and contributions to congresses

Research papers

Barragán, T., Esteve, J., García-Bellido D. C., Zamora, S. and Álvaro, J. J. 2014. *Hadimopanella oezgueli* Gedik, 1977: a palaeoscolecid sclerite inadequate for taxonomic purposes. *Palaeontologica Electronica*, 17.3.42A, 1-20.

Barragán, T., Esteve, J., García-Bellido D. C., Zamora, S. and Álvaro, J. J. 2014. New mid-Cambrian palaeoscolecid sclerites of *Hadimopanella oezgueli* from the Cantabrian Mountains, northern Spain. *GFF*, 136 (1), 22/25.

García-Bellido, D. C., Lee, M. S. Y., Edgecombe, G. D., Jago, J. B., Gehling, J. G. and Paterson, J. R. 2014. A new vetulicolian from Australia and its bearing in the chordate affinities of an enigmatic Cambrian group. *BMC Evolutionary Biology*, 14, 214.

Liñán, E., Gámez Vintaned, J. A. and Gozalo, R. 2014, in press. The low lower Cambrian (Ovetian) *Lunagraulos* n. gen. n. sp. from Spain and the oldest trilobite records. *Geological Magazine*. (ISSN 0016-7568; 1469-5081 [Online]).

Zamora, S. & Rahman, I. 2014. Deciphering the early evolution of echinoderms with Cambrian fossils. *Palaeontology*, 57 (6), 1105-1119.

Zhuravlev, A. Yu., Gámez Vintaned, J. A. and Tabachnick, K. R. 2014. Comment on "An enigmatic, possibly chemosymbiotic, hexactinellid sponge from the early Cambrian of South China" by Joseph P. Botting, Lucy A. Muir, Xiang-Feng Li, and Jin-Pai Lin. *Acta Palaeontologica Polonica*, 59 (2), 475-476. (ISSN 0567-7920). <http://dx.doi.org/10.4202/app.00067.2014>

Edition of special volumes and monographs

Domènech Arnal, R., Ekdale, A. A., Gámez Vintaned, J. A. & Martinell Callicó, J. (guest eds). Tribute to Jordi Maria de Gibert Atienza. *Spanish Journal of Palaeontology* [formerly *Revista Española de Paleontología*], 29 (1). (ISSN 2255-0550).

Domènech Arnal, R., Ekdale, A. A., Gámez Vintaned, J. A. & Martinell Callicó, J. (guest eds). Tribute to Jordi Maria de Gibert Atienza. *Spanish Journal of Palaeontology* [formerly *Revista Española de Paleontología*], 29 (2). (ISSN 2255-0550).

Gámez Vintaned, J. A. (ed.) 2014. XII Jornadas Aragonesas de Paleontología. "Yacimientos excepcionales". Homenaje al Dr. Antonio Perejón Rincón. *Memorias de la Real Sociedad Española de Historia Natural, Segunda época*, 14, Real Sociedad Española de Historia Natural, Madrid. 112 pp. (ISBN: 978-84-617-0639-6).

Meeting contributions

Liñán, E., Gámez Vintaned, J. A. and Gozalo, R. 2014. The lower Cambrian (Ovetian) Agraulidae from Spain and the oldest trilobite records. *International Subcommission on Ediacaran Stratigraphy (ISES) jointly with International Subcommission on Cambrian Stratigraphy (ISCS). 15-24th September 2014, Ouarzazate, Morocco.*

Dissemination papers

Rubio García, J., Liñán, E. and Gámez Vintaned, J. A. 2014. El Centro de Interpretación de la Explosión de la Vida en el Cámbrico en Miñera de Luna. *Naturaleza Aragonesa*, 31, 67-71. (ISSN 1138-8013).

IGCP-588: Preparing for Coastal Change -A detailed process-response framework for coastal change at different timescales.

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Abstract: Changes in relative sea level, coastal evolution and extreme events such as storms and tsunamis are of local and global interest, which hinder individual well-being and intensify/enhance environmental degradation. An increased public awareness of predicted future sea-level rise combined with recent devastating extreme events has placed significant socioeconomic relevance on the understanding of human-land-ocean interaction and coastal dynamics. This project looks at records that will assist in assessing human interactions, coastal dynamics and vulnerability at different timescales, which are immediately relevant to a variety of stakeholders interested in the future of coastal communities. They are: catastrophic or instantaneous events (minutes to hours);

measurable and predictable changes (hours to years) for planning scale decisions (years-decades) and, geological-scale changes (centuries to millennia).

The Spanish Working Group was established in September 2010 with more than 33 researchers interested. The investigations cover areas from all the Spanish and Portugal coast as well as Tunisia, Açores, Cape Verde and Santo Domingo coasts.

Publications and contributions to congresses

Antonio Rodríguez-Ramírez, Enrique Flores-Hurtado, Carmen Contreras, Juan J.R. Villarías-Robles, Gonzalo Jiménez-Moreno, José Noel Pérez-Asensio, José Antonio López-Sáez, Sebastián Celestino-Pérez, Enrique Cerrillo-Cuenca, Ángel León (2014). The role of neo-tectonics in the sedimentary infilling and geomorphological evolution of the Guadalquivir estuary (Gulf of Cadiz, SW Spain) during the Holocene. *Geomorphology*, 219: 126-140.

Antonio Rodríguez-Ramírez, José Noel Pérez-Asensio, Ana Santos, Gonzalo Jiménez-Moreno, Juan J.R. Villarías-Robles, Eduardo Mayoral, Sebastián Celestino-Pérez, Enrique Cerrillo-Cuenca, José Antonio López-Sáez, Ángel León, Carmen Contreras (2014). Atlantic extreme wave events during the last four millennia in the Guadalquivir estuary, SW Spain. *Quaternary Research*. doi:10.1016/j.yqres.2014.08.005

T. Bardají, A. Cabero, J. Lario, C. Zazo, P.G. Silva, J.L. Goy, C.J. Dabrio (2014). Coseismic vs. climatic factors in the record of relative sea level changes: an example from the Last Interglacials in SE Spain. *Quaternary Science Review*. doi:10.1016/j.quascirev.2014.10.005

Eduardo Leorri, Alejandro Cearreta, María Jesús Irabien, Ane García- Artola, D. Reide Corbett, Eric Horsman, William H. Blake, Joan-Albert Sanchez-Cabeza (2014). Anthropogenic disruptions of the sedimentary record in coastal marshes: Examples from the southern Bay of Biscay (N. Spain). *Continental Shelf Research*, 86: 132-140.

Ane García-Artola, Alejandro Cearreta, Eduardo Leorri (2014). Relative sea-level changes in the Basque coast (northern Spain, Bay of Biscay) during the Holocene and Anthropocene: The Urdaibai estuary case. *Quaternary International*. doi:10.1016/j.quaint.2014.06.040

Eduardo Leorri, Siddhartha Mitra, María Jesús Irabien, Andrew R. Zimmerman, William H. Blake, Alejandro Cearreta (2014). A 700 year record of combustion-derived pollution in northern Spain: Tools to identify the Holocene/Anthropocene transition in coastal environments. *Science of the Total Environment*, 470-471: 240-247.

Participation in Meetings

Two members (T. Bardají and J. Lario) participated in the final and 5th International Conference of the IGCP Project 588 (3rd – 10th May 2014 South-central Alaska, USA) and presented two communications:

Bardají, T., Cabero, A., Lario, J.; Zazo, C., Silva, P.G., Goy, J.L., Dabrio, C.J. (2014). Coseismic vs climatic effects in the record of relative sea-level changes: An example from last interglacials in SE Spain. In: Seismic and non-seismic influences on coastal change in Alaska. Conference Abstracts 5th International Conference of IGCP 588: 126.

Lario, J., Bardají, T., Cabero, A., Silva, P.G., Zazo, C., Goy, J.L. (2014). Implementing the coastal record in the INQUA ESI Scale-2007. In: Seismic and non-seismic influences on coastal change in Alaska. Conference Abstracts 5th International Conference of IGCP 588: 135.



Coseismic subsidence produced in the Alaska 1964 Earthquake (Portage Garage, Alaska)

IGCP-596 “Climatic change and biodiversity patterns in the Mid-Palaeozoic (Early Devonian to Late Carboniferous)

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Abstract: The activities of the Spanish Working Group (SWG) during 2014 have been mainly focussed on three aspects: 1) presentation of results, both on professional meetings and in specialised papers; 2) organisation of the annual meeting in conjunction with the Spanish Palaeontological Society and 3) organising a work-shop and inviting a young student to collaborate and get training on IGCP-596 goals and research activities.

Regarding to the first aspect, this year the participation of SWG members in professional meetings has been numerous and many of the contributions were related to the main topic of this year “Evolutionary patterns and palaeoecology”. The SWG has attended the two main IGCP-596 International meetings planned for this year, Joint meeting and field-workshop in Mongolia (three contributions) and International Paleontological Conference in Argentina (two contributions). Besides, and giving the relevance for disseminating the results in specific International meetings, the Conodont workshop in Bolonia (three contributions), the International Gondwana-15 in Madrid (four contributions) and the GSA in Vancouver (four contributions) were attended.

As in past years, the SGW organised a Special Symposium within the frame of the XXX Annual Meeting of the Spanish Palaeontological Society in Teruel, four oral contributions and one poster were presented this year. At the same time, the annual business meeting of the SWG was held.

The SWG leader submitted an IGCP-596 closely related training proposal for a young student within the frame of the RISE WELT-DAAD (German Academic Exchange Agency) program that was found. As a consequence, a German student from the Jacobs University of Bremen spent over two months in the University of Valencia.

Besides, the leader of the SWG has been appointed as the new President of the Spanish Committee; this nomination has been broadcasted by several media, which has given visibility not only to the IGCP program but also to the IGCP-596, as continuous reference to this specific program has been explained.

Partial support for attending and organising the different activities outlined above has been obtained from the Spanish IGCP National Committee, the Spanish Ministry of Economy and Competitiveness (MINECO), Grant CGL2011-24775 and the German Academic Exchange Service (DAAD) through the RISE-WELT Program.

Next year the SWG will organise a Special Symposium in connection to the XXXI Annual Meeting of the Spanish Paleontological Society that will take place in Baeza (Jaén province). Besides, it is the intention to participate, at least, in the Joint SDS-IGCP 596 to be held in Brussels and to attend the Strati2015 Conference.

Currently the SWG is composed of 25 members (14 females and 11 males; including 2 Post-docs; 4 Ph. D. students and 1 Master Student).

Publications and contributions to congresses

During this year the SWG has published nine scientific papers, four book chapters, 11 abstracts, participated in the edition of one book and co-organised a major Conference and symposium. Besides, three presentations, without abstracts, were presented as well.

Peer Review Papers

Botella, H., Manzanares, E., Ferrón, H.G. & Martínez-Pérez, C. 2014. *Obruchevacanthus ireneae* gen. et sp. nov., a new Ischnacanthiforme (Acanthodii) from the Lower Devonian of Spain. *Paleontological Journal*, 48(10): 1067-1076.

Cardoso, C.N., Sanz-López, J., Blanco-Ferrera, S., Lemos, B.V. & Scmazzon, A.K. 2014. Frasnian conodonts at high palaeolatitude (Amazonas Basin, north Brazil). *Palaeogeography, Palaeoclimatology, Palaeoecology* 418 (2015): 57-64.

Coronado, I., Pérez-Huerta, A. & Rodríguez, S. 2014. Crystallographic orientations of structural elements in skeletons of Syringoporidae (tabulate corals, Carboniferous): implication for biomineralization process in Paleozoic corals. *Paleontology*. DOI: 10.1111/pala.12127

- Coronado, I., Pérez-Huerta, A. & Rodríguez, S. 2014. Computer-integrated polarisation (CIP) in the analysis of fossils: a case of study in a Palaeozoic coral (*Sinopora*, *Syringoporicae*, Carboniferous). *Historical Biology*: 1-15 <http://dx.doi.org/10.1080/08912963.2014.938236>.
- Coronado, I & S. Rodríguez, S. 2014. Carboniferous auloporids from the Iberian Peninsula: palaeoecology, diversity, and spatio-temporal distribution. *Journal of Iberian Geology* 40 (1) 2014: 61-85 http://dx.doi.org/10.5209/rev_JIGE.2014.v40.n1.44088 ISSN (print): 1698-6180. ISSN (online): 1886-7995
- García-Alcalde, J.L. 2014. *Beethovenia* n. gen. y *Plicostropheodonta* Sokolskaya, 1960 (Strophodontidae Caster, 1939), del Devónico Inferior de Europa occidental. *Trabajos de Geología, Universidad de Oviedo*, 34 (in press).
- Martínez-Chacón, M.L. & Winkler-Prins, C. 2014. *Kozlowskia* (Productidina, Brachiopoda) from late Bashkirian/early Moscovian (Pennsylvanian), Cantabrian Mountains (N Spain). *Neues Jahrbuch für Geologie und Paläontologie*, 272(2), 129-145.
- Martínez-Pérez, C. & Valenzuela-Ríos, J. I. 2014. New Lower Devonian Polygnathids (Conodonts) from the Spanish Central Pyrenees, with comments on the early radiation of the group. *Journal of Iberian Geology* 40 (1): 141-155. DOI: 10.5209/rev_JIGE.2014.v40.n1.44095.
- Rodríguez, S. & Kopaska-Merkel, D. 2014. Mississippian Rugose corals from Alabama. *Journal of Paleontology* 88 (5): 829-850.
- Rodríguez, S. 2014. Los Santos de Maimona: un arrecife del Carbonífero. *Memorias de la Real Sociedad Española de Historia Natural* 12: 73-81.

Proceedings and Book-Chapters

- Cardoso, C.N., Sanz-López, J. & Blanco-Ferrera, S. 2014. Conodonts del Frasnense (Devónico Superior) en paleolatitudes altas (norte de Brasil). En: Royo-Torres, R. et al. (Eds.). XXX Jornadas de La Sociedad Española de Paleontología y Simposio del Proyecto PIGC 596. *Fundamental* 24: 263-266. ISBN-13: 978-84-938173-7-4
- Liao, J.-C., Valenzuela-Ríos, J.I. & Gouwy, S. (2014): Conodonts del Givetense (Devónico Medio) de la Subfacies Compte (Pirineo Central Español). En: Royo-Torres, R. et al. (Eds.). XXX Jornadas de La Sociedad Española de Paleontología y Simposio del Proyecto PIGC 596. *Fundamental* 24: 267-268. ISBN-13: 978-84-938173-7-4
- Rodríguez, S., Said, I., Somerville, I.D., Cózar, P. & Coronado, I. 2014. Corales del tránsito Serpukhoviense-Bashkiriense del área de Adarouch (Meseta Central Marroquí). En: Royo-Torres, R. et al. (Eds.). XXX Jornadas de La Sociedad Española de Paleontología y Simposio del Proyecto PIGC 596. *Fundamental* 24: 269-272. ISBN-13: 978-84-938173-7-4
- Valenzuela-Ríos, J. I., Liao, J.-C., & Calvo, H. (2014): El Devónico Inferior de las secciones de Segre (Pirineo Central Español): conodonts. En: Royo-Torres, R. et al. (Eds.). XXX Jornadas de La Sociedad Española de Paleontología y Simposio del Proyecto PIGC 596. *Fundamental* 24: 273-275. ISBN-13: 978-84-938173-7-4

Abstracts

Published:

- Liao, J.-C. & Valenzuela-Ríos, J.I. 2014. The Givetian (Middle Devonian) conodont succession from the Spanish Pyrenees: a reference standard for Gondwana and beyond. In: Pankhurst, R. J. et al. (Eds.). *Gondwana 15: North meets South*. 96.
- Liao, J.-C. & Valenzuela-Ríos, J.I. 2014. Conodont Biofacies Evolution from the Eifelian to the Middle Frasnian (Middle and Upper Devonian) of the Spanish Central Pyrenees. In: Kido, E et al. (Eds.). *Berichte des Institute für Erdwissenschaften, Karl-Franzens-Universität Graz*, 19: 35. ISSN: 1608-8166
- Liao, J.-C. & Valenzuela-Ríos, J.I. 2014. Application of the intended Givetian subdivision (Middle Devonian) sensu sds in the Spanish Central Pyrenees: support for global correlations. En: Cerdeño, E. (Compiler). 4th IPC. *The History of Life: a view from the southern hemisphere*. 849.

- Liao, J.-C. & Valenzuela-Ríos, J.I. 2014. Middle and Early Upper Devonian Conodont Biofacies from the Spanish Central Pyrenees. *Annual Meeting of the Geological Society of America, Abstracts with Programs*, 46(6): 756.
- Liao, J.-C., Valenzuela-Ríos, J.I. & Gouwy, S. 2014. Conodont biostratigraphy and facies analysis of Givetian rocks in the Spanish Central Pyrenees. *Annual Meeting of the Geological Society of America, Abstracts with Programs*, 46(6): 821.
- Slavik, L., Valenzuela-Ríos, J. I., Chadimová, L., Liao, J.-C., Hušková, A. & Calvo, H. 2014. HI-Res correlation of the Lochkovian-Pragian (Lower Devonian) sections in the key regions of peri-Gondwana. In: Kido, E et al. (Eds.). *Berichte des Institute für Erdwissenschaften*, Karl-Franzens-Universität Graz, 19: 46, 47. ISSN: 1608-8166.
- Valenzuela-Ríos, J.I. 2014. The Lochkovian (Lower Devonian) Conodont sequence in the Spanish Central Pyrenees: a reference for global studies on pelagic facies. 4th IPC. *The History of Life: a view from the southern hemisphere*. 864 p.
- Valenzuela-Ríos, J.I. 2014. Lochkovian (Lower Devonian) conodont biotic events in the Spanish Pyrenees and their relevance to establishing a reference time-frame for Gondwana stratigraphy. In: Pankhurst, R. J. et al. (Eds.). *Gondwana 15: North meets South*. 97.
- Valenzuela-Ríos, J.I. & Carls, P. 2014. The Lower Devonian Conodont successions from Nigüella (Iberian Chains, Spain) with emphasis on evolutionary events. In: Kido, E et al. (Eds.). *Berichte des Institute für Erdwissenschaften*, Karl-Franzens-Universität Graz, 19: 55. ISSN: 1608-8166
- Valenzuela-Ríos, J. I. & Liao, J.-C. 2014. Evaluation of Devonian stages and their subdivision in the Spanish Central Pyrenees. A global perspective. *Annual Meeting of the Geological Society of America, Abstracts with Programs*, 46(6): 755.
- Valenzuela-Ríos, J. I. & Martínez-Pérez, C. 2014. Conodont succession (polygnathidae) around the Pragian/Emsian (Lower Devonian) transition in the Spanish Central Pyrenees and its relevance for global correlations. *Annual Meeting of the Geological Society of America, Abstracts with Programs*, 46(6): 821.

Presentations

- Liao, J.-C. & Valenzuela-Ríos, J.I. 2014. The Pyrenean Eifelian-Frasnian (Middle-Upper Devonian) Conodont Data base and its global relevance. Oral presentation at Pander Society Workshop, 27 Februar-1 March, Bologna, Italy.
- Murphy, M. A.; Carls, P. & Valenzuela-Ríos, J. I. 2014. New interpretations on the composition of *Pedavis* apparatus. Oral presentation at Pander Society Workshop, 27 Februar-1 March, Bologna, Italy.
- Valenzuela-Ríos, J.I., Calvo, H. & Liao, J.-C. 2014. The Global Value of the Lochkovian (Lower Devonian) Segre sections. Oral presentation at Pander Society Workshop, 27 Februar-1 March, Bologna, Italy.

Meeting organisation

The Spanish Working Group (SWG) has organised a **Special IGCP Symposium** within the frame of the XXX Spanish Palaeontological Meeting. Five works were presented (see above) and they were published in the special book of the Meeting.

Name of organisers: José Ignacio Valenzuela-Ríos and Jau-Chyn Liao.

Date and location: Teruel, Spain, (15-17 October 2014). Spain.

Number of participants: over 100 participants of nine countries.

Funding: IGCP-National Spanish Committee.

Besides, the SWG held its **annual business meeting** and a commitment to organise a new symposium next year was fully supported by all participants. Consequently, the next year, the SWG will organise a special symposium within the XXXI Annual Meeting of the Spanish Paleontological Society to be held in Baeza. Contacts with main organisers have already started.

Ph. D. finished

Jau-Chyn Liao Chen: "*Biostratigrafía con conodontos del Givetense (Devónico Medio) del Pirineo Central Español*". 4th July, 2014 Ph.D. with mention of European Doctor at the University Complutense of Madrid, obtaining the highest mark on Spanish notation "*Sobresaliente Cum Laude*". Supervisors: Prof. Dr. José Ignacio Valenzuela Ríos (U. Valencia) and Sergio Rodríguez (U. Complutense, Madrid).

Other IGCP-related activities

Graduate Training: Conodont laboratory and fieldwork basic techniques. General Devonian Biostratigraphy and Chronostratigraphy. University of Valencia. Organiser: José Ignacio Valenzuela-Ríos. Graduate Student: Franziska Klimpel; Jacobs University, Bremen. Project ES-ES-122: Evolution and Biodiversity of Lower Devonian Marine Life. End of June-beginning of September 2014

Workshop on Bio and Chronostratigraphy organised by José Ignacio Valenzuela-Ríos at the School of Engineering, University of Valencia. It was addressed to Graduate, post-graduate and Professors. July 2014.

Granted Projects related to the IGCP

Lower Devonian Global Events of Spain and its worldwide correlation. CGL2011-24775. Main Researcher: José Ignacio Valenzuela-Ríos. Grant Agency: Spanish Ministry of Science and Innovation. Duration 4 years (2012-2015).

Hi-Res correlation and dating of Mid-Palaeozoic sedimentary sequences of Peri-Gondwana using integrated biostratigraphy and chemo-physical methods. M100131201. Main Researchers: Ladislav Slavík & José Ignacio Valenzuela-Ríos Financial Source: Czech Academy of Sciences. Czech Republic. Duration July 2012-June 2015

Partial support for attending and organising the different activities outlined above has been obtained by the Spanish IGCP National Committee, the International IGCP-596, and mainly by the Spanish Ministry for Economy and Competitiveness (MINECO), Grant CGL2011-24775.

Planned activities for 2015

Next year the SWG will organise a Special Symposium in connection with the XXXI Annual Meeting of the Spanish Paleontological Society that will take place in Baeza. Besides, it is the intention to participate, at least, in the Joint SDS-IGCP 596 to be held Brussels and to attend the Strati2015 Conference in Graz.



Technical session IGCP 596/580 joint meeting and field workshop in Ulaanbaatar, Mongolia (August 2014).



Fieldwork participants in the Devonian of the Baruunhuurai Terrane, Altai Gobi dessert, Mongolia .



Peter Königshof (IGCP 596 leader), Jau-Chyn Liao, Nacho Valenzuela, Thomas Becker and Katarzyna Narkiewicz at the IGCP 596/SDS poster session at the 4th International Palaeontological Conference in Mendoza (Argentina, September 2014).



Participants at the XXX Spanish Palaeontological Society Meeting and Annual Spanish IGCP 596 Symposium in Teruel (Spain, October 2014).

IGCP-618: Paleoclimate information obtained from past recharged groundwater

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Abstract : The IGCP-618 Spanish Working Group, formed in late 2013, has continued to work for the various lines that are being developed to provide information on climate and anthropogenic changes in the wetland of Las Tablas de Daimiel National Park. Studies have focused on surface water and groundwater, on the sedimentary record and on historical documentary sources. As important works can be mentioned the $^{13}\text{C}/^{14}\text{C}$ sampling in groundwater, core sampling of surveys conducted in late 2013, geophysical surveying, and the close collaboration with the Museo Comarcal de Daimiel. As a result of this collaboration can highlight efforts to validate the environmental conclusions obtained from sediments by means of documents on the human activities in Las Tablas de Daimiel. Finally, an effort has been made to disseminate by different ways the activities carried out. There has also been an exchange of information with other working groups that share the same time range as "Our Way To Europe. Culture-Environment Interaction and Human Mobility in the Late Quaternary "

Meeting organization

Meeting of the **IGCP Spanish National Committee in Tablas de Daimiel in March 2014**, with the support of the National Park Direction.

Meeting with part of project teams "**Our Way To Europe. Culture-Environment Interaction and Human Mobility in the Late Quaternary**", in March, in Daimiel, visiting significant areas of Holocene and Pleistocene outcrops nearby Tablas de Daimiel National Park.

Training activities

Visit of a students group of the Máster en Ingeniería y Gestión del Agua de la Escuela de Organización Industrial in April 2014 to Las Tablas de Daimiel and its surroundings, with "in situ" explanations of environmental problems caused by water management

Publications and contributions to congresses

Castaño, S.; de la Losa, A.; Martínez-Santos, P.; Mediavilla, R.; Santisteban, J.I. (2014): Caracterización de la composición química del río Guadiana y su influencia en el Parque Nacional de Las Tablas de Daimiel. *Geogaceta*, 56: 95-98.

- Castaño, S.; de la Losa, A.; Mediavilla, R.; Santisteban, J.I.; Martínez-Santos, P. (2014): Effect of hydraulic infrastructures on the chemical quality of flooded area of Tablas de Daimiel National Park (Central Spain). Poster presented at the *International Conference Wetland 2014. Wetlands Biodiversity and Services: Tools for Socio-Ecological Development*, held in Huesca (Spain), in September 2014.
- Celis, A.; Santisteban, J.I.; Mediavilla, R. (2014): El cuerpo de ingenieros militares en Las Tablas de Daimiel: Consecuencias de un proyecto ilustrado. In: *Libro de resúmenes del XII Congreso de la Sociedad Española de Historia de las Ciencias y las Técnicas* (González Redondo, F.A., Coord.). Sociedad Española de Historia de las Ciencias y las Técnicas. Madrid. p. 178. ISBN: 978-84-617-1159-8
- Celis, A.; Santisteban, J.I.; Mediavilla, R.; Castaño, S.; de la Losa Román, A. (2014): El proyecto de desecación de Las Tablas de Daimiel de 1937 a través del registro sedimentario y de las fuentes históricas. Oral communication presented at the *III Jornadas de Historia de Daimiel*, held in Daimiel (Spain), in November 2014.
- Moreno, L.; Aguilera, H.; Jiménez-Hernández, M.E.; Castaño, S.; de la Losa, A. (2014): Critical soil moisture values as objective criteria for managing Las Tablas de Daimiel National Park during droughts. Poster presented at the *International Conference Wetland 2014. Wetlands Biodiversity and Services: Tools for Socio-Ecological Development*, held in Huesca (Spain), in September 2014.
- Santisteban, J.I.; Mediavilla, R.; Castaño, S.; De la Losa, A.; Celis, A. (2014): Las Tablas de Daimiel: the archaeological, documentary and sedimentary record of a changing relationship between society and wetland for the last 4.000 years in central Spain. Oral communication presented at the *International Conference: Culture, Climate and Environment Interactions at Prehistoric Wetlands Sites*, held in Bern (Switzerland), in June 2014.

Lectures

Juan Ignacio Santisteban and Rosa Mediavilla: July 14th, 2014 at the University of Cologne, entitled "Las Tablas de Daimiel (Spain): water, climate and people".

Forthcoming events

It is planned to attend various international meetings:

9th World Congress on Water Resources. "Water resources management in a changing world: Challenges and opportunities", organized by the European Water Resources Association (EWRA), in June 10-13, 2015, in Istanbul, Turkey.

XIX INQUA Congress. "Quaternary perspectives on climate change, natural hazards and civilization". 27 July-2 August, 2015, in Nagoya, Japan.

ICEWW 2016 : International Conference on Environment, Water and Wetlands, August 8-9, 2016, in Venice, Italy

Granted Projects related to the IGCP

"Holocene Paleo-climate and hydrological reconstruction on the Upper Guadiana (Tablas de Daimiel), MINECO CGL2011-30302-C02-01"

Web

The MINECO CGL2011-30302-C02-01 project website (<http://www.igme.es/ProPaleoTD/default.htm>) is also used to give about the activities of the IGCP-618 Spanish Group.



Students of the Escuela de Organización Industrial visiting the “Ojos del Guadiana” springs. After 35 years, groundwater appeared in the highest springs of the Guadiana Valley in spring 2014, with near 0 TU of tritium content.



Groundwater appearance in the Guadiana Valley near the “motilla de Zuacorta” (“Motilla”: Bronze Age settlement).

4.- National Committee activities

The Spanish National Committee (SNC) annual meeting took place in Las Tablas de Daimiel Natural Park (Ciudad Real) with Prof. M.A. Lamolda as Chairman and Prof. J. I. Valenzuela as Secretary. The Administrators provided the place and all facilities that were needed; the headquarters building was offer to us for the meeting. The ACI 2009-1037 Grant supported the participants assistance to the meeting. The meeting consisted in a fieldtrip to the Tablas de Daimiel guided by two members of the Committee (Rosa Mediavilla and Silvino Castaño) and in the business meeting; it was attended by eight participants and other three (including the Director of the Spanish Geological Survey) could not attend due to agenda incompatibilities.

Both, the Chairman and the Secretary expressed their disappointment with the way the International Committee is addressing the National Committees, specially after the recommendations and oral agreements reached in the IGCP 40th Anniversary Meeting held in 2012. However, in the last meeting held in Paris, the Committees were allow to speak and after the critics of the Spanish and German representatives (Prof. Valenzuela Ríos and Dr. Königshof respectively) a change in the intentions of the International Board was observed.

The lack of transparency from the Board and the need of a close cooperation between the Board and the National Committees was addressed. The Spanish National Committee offered cooperation to advance in finding solutions for this long-standing problem.

The issue that some groups contact only the SNC for support but afterwards they do not provide any information and/or even do not create the suggested Working Group, was treated again and the consequences of this kind of attitudes was one more time addressed and agreed on.

The former Secretary (and current Chair) reported on the IGCP 42st Annual Meeting and pointed out the “good feeling” regarding further cooperation of the Board with the National Committees. However, it was estrange that no information on the new projects, their founding, current status, numerical reference, title, web page, coordinators,... were provided.

The current Chairman actively participated (given presentations and moderating discussions) in the workshop on capacity building for preparing IGCP Projects for Sudamerican leaders hold in Montevideo, supported by the UNESCO-IUGS and SIDA (Swedish International Development Cooperation Agency) and mainly organized by Denise Gorfinkiel, Chair of the Regional Office of Science for Latin America and Caribe with the help of Dra. Patzak (IGCP-UNESCO, Secretariat Paris) and Prof. Valenzuela Ríos (Spanish National Committee).

The Chairman of the SNC gave supporting letters to the five following projects; noteworthy are the two from Sudamerica, as consequence of the workshop held in Montevideo (see above): 1.

“Systematic designation of natural stone resources that have achieved widespread utilisation in human culture” presented by Prof. Dolores Pereira (University of Salamanca); 2. *“Analysis of Seismicity induced by Anthropogenic Processes in Latin America and Caribbean”* presented by Carlos A. Vargas (National University of Colombia). 3. *“Assessing Geohazards, Environmental Implications and Economic Significance of Modern and Ancient Subaquatic Landslides across the Worlds Continental Margins”* presented by Lorena Moscardelli (University of Texas, Austin). 4. *“Sea level changes from minutes to millennia”* presented by Simon E Engelhart and Goesta Hoffman and 5. *“Aquifer recharge in different climate and hydrogeological environments in Ibero-America: Importance of climate and global variability and changes”* presented by Teresita Betancur (University of Antioquia, Colombia). Regarding the last one and due to the behaviour of the Spanish participants on a past project, which was already questioned both in the Spanish National Committee and in the discussions of the different open Sessions held in Paris, the support is conditioned to a change in the conduct of the Spanish participants with the Spanish National Committee as was explained to the proponent.

The SNC gave support to the Secretary J.I. Valenzuela for attending the 42st Annual Sessions of the IGCP Scientific Board.

The SNC also supported the Coordinator of the SWG-596 and one recent post-doc to attend (with contributions) the Special Symposium of the IGCP-596 held in Teruel in connection to the Annual Meeting of the Spanish Paleontological Society and to organize the SWG-596 Annual Meeting.

The SNC supported the participation of the Coordinator of the SWG-588 (Dr. Lario) for attending the International Meeting of the Project held in Alaska.

The SNC supported the participation of the Secretary of the SWG-596 (Dra. Liao) for attending the International Meeting of the Project held in Mongolia.

The SNC supported the trip to Granada of the new Chair to visit the former one for a business meeting, exchange of information and documentation.

This year a total of 6 working groups are active in Spain: 585, 587, 588, 596, 618 and 619.

As a result of the activity the numerous papers and contributions to meetings aforementioned were published.

In June Prof. Marcos Lamolda step down as Chairman of the National Committee after more than 20 years successfully devoting his time and energy to push forward the Spanish National Committee. From this time up to the appointment (September 19th) of the new Chairman, the former Secretary (Prof. José I. Valenzuela) served interim as Chairman.

In November, the current Chair visited the former one in Granada for exchanging information and documentation regarding the IGCP National Committee.

The Chairman held a brief meeting in Argentina with the IGCP Executive Secretary (Prof. Patrick McKeever) and the Chief of the Regional Office for Science in Latin America and Caribe (Ms. Denise Gorfinkiel).

Finally and due to the new UNESCO policies on Earth Sciences, the Chairman of the Committee has started contacts with the National Committee on Geoparks; as a first result, he has been appointed as Assessor Member of this Committee.



Members of the Spanish National Committee at the Annual Meeting in Tablas de Daimiel (Ciudad Real, March 2014). Colapse of Quaternary sediments on karstified Pliocene carbonates due to the rise of freatic table since 2009.



General view of Tablas de Daimiel (Ciudad Real, March 2014). In foreground view of the non-flooding relic carbonates relief, which forms an island; flooded area with parts covered by vegetation and others free (tablas and tablazos). Background shows carbonate relics and alluvial fans at the foothill of the Montes de Toledo palaeozoic relief.



Participants of the Capacity Building Workshop on preparing IGCP Projects for Latin American leaders held in Montevideo (Uruguay, June 2014).

5.- IGCP Meetings held during the year in Spain

- Annual Meeting of the Spanish National Committee, March 28th-29th, Tablas de Daimiel (Ciudad Real).
- Annual Meeting of the Spanish Working Group-IGCP 596 and Special Symposium with 5 contributions in Teruel. 15th-17th October.

6.- IGCP meetings planned for the next year (2015)

- Annual Meeting of the Spanish National Committee, probably in one of the 10 Geoparks that belong to the Global Geopark Net in Spain.
- Special Meeting on the occasion of the 40th Anniversary of the Spanish National Committee.
- Annual Meeting and Special Symposium of the Spanish Working Group-IGCP 596 during the XXXI Meeting of the Spanish Paleontological Society to be held in October in Baeza (Jaén).

7.- Forthcoming events in connection with IGCPs

- 7th International Symposium on Submarine Mass Movements and Their Consequences in New Zealand. <http://www.cvent.com/events/7th-international-symposium-on-submarine-mass-movements-and-their-consequences/event-summary-f96aecf8bd8b453584db01f8c67b85f6.aspx>

- 9th World Congress on Water Resources. “Water resources management in a changing world: Challenges and opportunities”, organized by the European Water Resources Association (EWRA), in June 10-13, 2015, in Istanbul, Turkey.
- XIX INQUA Congress. “Quaternary perspectives on climate change, natural hazards and civilization”. 27 July-2 August, 2015, in Nagoya, Japan.
- ICEWW 2016 : International Conference on Environment, Water and Wetlands, August 8-9, 2016, in Venice, Italy
- XXXI Meeting of the Spanish Paleontological Society, October 2015, Baeza (Spain).
- Strati 2015, 2nd International Congress on Stratigraphy IGCP-596 and IGCP 580 Joint Meeting, Graz, 19-23July, 2015.
- IGCP596/SDS Symposium. 20-22 September, 2015 Brussels..
- 57th Scientific Session of Spanish Geological Society. May 2015 – Aguilar de Campoo, Spain.
- 58th Scientific Session of Spanish Geological Society. Nov 2015 – Almuñécar, Spain.

8.- Suggestions relating to conduct and improvement of the Program

As already stated in previous reports a better communication between the Board and the National Committees has always been desirable and the Spanish National Committee has suggested in numerous occasions some ideas. The proposed joint meeting for this year can be a steep forward in this direction. However, still we are missing some lack of transparency and effective communication of the Board, which is a major handicap towards an active cooperation and fluid transference of ideas and informations that is needed in improving the program.

Also a joint effort in improving measures for advancing towards a better relation and communication between national participants in IGCP projects and their respective national committees is desirable. For instance, it is inconceivable that Spanish Co-Leaders of IGCP projects do not contact the National Committee, or even worse, when the Spanish National Committee learns about them and contact them, they never reply. We have denounced this aspect to the Board, and even suggested that those projects (not only in Spain but worldwide) that do not report to the respective national committees shall not be granted, or their funding be fined, the following year. This behaviour greatly affects the annual reports that continuously will be incomplete. Therefore, the IGCP is funding and supporting actions that are out of control because

the responsables do not care to report them to the National Committees, and no measures to palliate this situation are implemented.

As an example of the aforementioned, this year, a member of an international Project that only contacted the National Committee in the past to obtain a letter of support but never contacted/ reported again for the whole duration of the project, has contacted again for a new letter of support for a new project. These manners are not acceptable and shouldn't be permitted by the International Board. One way of alleviate this situation could be the mandatory contact with the National Committees in the Annual report and if this contact has been overlooked, then, a strong way of forcing the groups to contact could be the decision of not supporting them for the next year (or at least hold the subvention until this situation is solved). Of course, this has to be thoroughly explained in the proposal guidelines and make the proponents well aware of this mandatory issue.

We want to remember here that the Spanish National Committee has always supported the IGCP by participating, sending reports and making comments for improving collaboration. However, we unfortunately have observed that the same relevant problems remain unsolved.

Finally I would like to stress the need of a fear reference to the work carried out by the national Committees in the past, which was overlooked in the book summarizing the 40 years of IGCP history. I believe that the "historical heritage" of all hard work done in the past shall be appraised and this is still a pending labour. I understand that current times are difficult and that much effort shall be concentrated in planning the future and develop a feasible project for the program, but I also believe that we must not forget the work done by our predecessors and, I suggest that a historical perspective is needed for better comprehension of the Program's evolution through time.

9.- Financial support received for the activities of this National Committee and given to IGCP projects and their activities.

The activities of the Spanish National Committee have been supported by a part of the Grant ACI2009-1037 of the Ministry for Economy and Competitiveness (30,000 euros for four years) .

The supported activities were:

- Participation of the Secretary of the Spanish National Committee in the annual meeting of the IGCP Scientific Board, Paris, February 19th-20th, 2014.

- Annual Meeting of the IGCP Spanish Committee, held at Tablas de Daimiel (Ciudad Real) 28th-29th March 2014. The meeting was attended by 9 members. On this occasion a fieldtrip to the Tablas de Daimiel was led by two of the Committee's members (Dra. Mediavilla and Dr. Castaño) who conduct their research in this Natural Park. Two working groups (585, 619) gave extensive presentations on the goals, development and achievements of the respective projects and working groups.
- Participation of one member in the final and 5th International Conference of the IGCP Project 588 (3rd – 10th May 2014 South-central Alaska, USA) and presented two communications.
- Participation of two Spanish Committee representatives in the IGCP-596 Symposium, in the XXX Annual Meeting of the Spanish Paleontological Society, Teruel, 15-17 October, 2014.
- Participation of one Spanish Committee representative in the International Joint meeting and field-workshop IGCP-596 /SDS in Mongolia.
- Trip of the current Chairman to University of Granada for exchanging information and documentation with former Chair.
- Xeroopies and stationary for the Spanish National Committee and its Working Groups.
- The Universities of Granada (Depto. de Estratigrafía y Paleontología) and Valencia (Dpto. de Geología), provided general services that allowed to the past and present Chairmen and the past Secretary of the Committee, to carry out their duties appropriately.

Other financial sources that supported activities related to the Spanish Working Groups were:

Lower Devonian Global Events of Spain and its worldwide correlation. CGL2011-24775. Main Researcher: José Ignacio Valenzuela-Ríos. Grant Agency: Spanish Ministry of Science and Innovation. Duration 4 years (2012-2015).

Hi-Res correlation and dating of Mid-Palaeozoic sedimentary sequences of Peri-Gondwana using integrated biostratigraphy and chemo-physical methods. M100131201. Main Researchers: Ladislav Slavík & José Ignacio Valenzuela-Ríos Financial Source: Czech Academy of Sciences. Czech Republic. Duration July 2012-June 2015.

They supported the following activities:

- Participation of the Spanish Leader of the SWG-IGCP-596 in the Joint SDS-IGCP 596 symposium, held in the 4th International Palaeontological Conference, Argentina September 29-October 3, 2014.

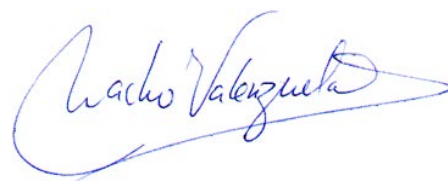
- Participation of the and Spanish Leader of the SWG-IGCP-596 in the Third International Conodont Symposium, Mendoza (Argentina) 15-19 July, 2013.
- Participation of the Spanish Leader of the SWG-IGCP-596 in the Pander Society Workshop, Bolonia (Italia) February 27-March 1, 2014.
- Participation of the Spanish Leader of the SWG-IGCP-596 in the Gondwana 15 International Conference, Madrid (Spain) 13th-18th July, 2014.
- Participation of the Spanish Leader of the SWG-IGCP-596 in the 126 Annual Meeting of the Geological Society of America, Vancouver (Canada) 19-23 October, 2014.
- Joint fieldtrip (Spain-Czech Republic) in the Devonian of the Spanish Central Pyrenees. These grants supported the trip and accommodation of the Spanish Leader and of one recent Dr. of the SWG-IGCP-596.
- Joint workshop (Spain-Czech Republic) in the Academy of Sciences of the Czech republic. These grants partially supported the trip and accommodation of the Spanish Leader and one recent Dr. of the SWG-IGCP-596.

The DAAD WELT RISE program supported the training at University of Valencia (Spain) of one German Student from late June to early september.

Funding to support activities related to the IGCP-618 was also obtained from the Spanish Grant: "Holocene Paleo-climate and hydrological reconstruction on the Upper Guadiana (Tablas de Daimiel), MINECO CGL2011-30302-C02-01"

Funding to partially support some actions of the SNC aforementioned came from a Grant of the Geological Survey of Spain (IGME) (2,314 €).

Valencia, January 18th, 2015



José Ignacio Valenzuela Ríos

President, Spanish National Committee, IGCP