

SPANISH NATIONAL COMMITTEE

REPORT 2015



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1 Chairman and Secretary of the Spanish National Committee

Chairman:

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2 Members of the Spanish National Committee

Dr. Roger Urgeles Esclasans (reporter 640); Dr. Javier Lario (former 588); Dra. Jau-Chyn Liao Chen* (596), Dr. Silvino Castaño Castaño (replaced in mid-December by Juan Ignacio Santisteban) (618); Dr. Javier Hernández Molina (619); Dr. Pablo G. Silva (International Board); María del Mar Corral Lledó (Geological Survey of Spain) and Santiago Martín Alfageme (Geological Survey of Spain).

*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.

3 IGCP Projects with participation of Spanish Working Groups

3.1 Projects with Spanish project co-leader

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^o 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 He informed that the formal support from IGCP 619 has been withdrawn due to the non-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 2015 with research meetings, publications in journals and congress.



Participant in the RCMNS interim colloquium “Mediterranean – Atlantic Gateways”, Rabat May, 2015. Rabat (Morocco)

Publications and contributions to congresses

I. International journal (SCI)

1. Alonso, B., Ercilla, G., Casas, D., Stow, D.A.V., Rodríguez Tovar, F.J., Dorador, J., Hernández-Molina, F.J., Gravitative deposits vs contourites and the sediment provenance of the Pleistocene deposits in the Faro Drift (Gulf of Cadiz): sedimentological and geochemical approaches. *Marine Geology (In press)*. doi:10.1016/j.margeo.2015.12.016. Available online.
2. Ausín, A. Flores, J.A., Sierro, F.J., Bárcena, M.A., Hernández-Almeida, I., Francés, G., Gutiérrez-Arnillas, E., Martrat, B., Grimalt, J.O. & Cacho, I., **2015**. Tracking productivity and surface water dynamics in the Alboran Sea during the last 25 kyr. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 418: 126-140. doi: <http://dx.doi.org/10.1016/j.palaeo.2014.11.011>
3. Ausín, B., Hernández-Almeida, I., Flores, J.-A., Sierro, F.-J., Grosjean, M., Francés, G., Alonso, B., **2015**. Development of coccolithophore-based transfer functions in the western Mediterranean sea: a sea surface salinity reconstruction for the last 15.5 kyr, *Climate of the Past*, 11, 1635-1651, doi:10.5194/cp-11-1635-2015.
4. Ausín, B., Hernández-Almeida, I., Flores, J.A., Sierro, F.J., Grosjean, M., Francés, G., Alonso, B. **2015**. Development of coccolithophore-based transfer functions in the Western Mediterranean Sea: a sea surface salinity reconstruction for the last 15.5 kyr. *Climate of the Past Discussions*, 11: 3759-3798. doi: 10.5194/cpd-11-3759-2015
5. Ausín, B., Hernández-Almeida, I., Flores, J.A., Sierro, F.J., Grosjean, M., Francés, G. & Alonso, B. **2015**. Development of coccolithophore-based transfer functions in the Western Mediterranean Sea: a sea surface salinity reconstruction for the last 15.5 kyr. *Climate of the Past*, 11: 1635-1651. doi: 10.5194/cp-11-1635-2015.
6. Bahr, A., Kaboth, S., Jiménez-Espejo, F.J., Sierro, F.J., Voelker, A.H.L., Lourens, L., Röhl, U., Reichert, G.J., Escutia, C., Hernández-Molina, F.J., **2015**. Persistent monsoonal forcing of Mediterranean Outflow dynamics during the late Pleistocene, *Geology*, 43: 951-954. doi:10.1130/G37013.1.
7. Balestra, B., Flores, J.-A., Hodell, D.A., Hernández-Molina, F.J., Stow, D.A.V., **2015**. Pleistocene calcareous nanofossil biochronology at IODP Site U1385 (Expedition 339). *Global and Planetary Change*, 135: 57-65. doi: 10.1016/j.gloplacha.2015.10.004.

8. Clauzon, G., Suc, J.P., Do Couto, D., Jouannic, G., Melinte-Dobrinescu, M.C., Jolivet, L., Quillévéré, F., Lebret, N., Mocochain, L., Popescu, S.-M., Martinell, J., Doménech, R., Rubino, J.P., Gumiaux, C., Warny, S., Bellas, S.M., Gorini, C., Bache, F., Rabineau, M., Estrada, F., **2015**. New insights on the Sorbas Basin (SE Spain): the onshore reference of the Messinian Salinity Crisis. *Basin Research. **Marine and Petroleum Geology***, 66(1): 71-100 DOI: 10.1016/j.marpetgeo.2015.02.016.
9. Ercilla, G., Juan, C., Hernández-Molina, F.J., Estrada, F., Alonso, B., Casas, D., Farran, M., Llave, E., García, M., Vázquez, J.T., D'Acremont, E., Gorini, C., Palomino, D., El Moumni, B., Ammar, A., Significance of Bottom Currents in Deep Sea Morphodynamics: The Alboran Sea Example. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.09.007. Available online in 2015.
10. García, G., Lobo, P., Maldonado, A., Hernández-Molina, F.J., Bohoyo, F., Pérez, L.F., The contourite depositional system of the Scan Basin, central Scotia Sea, Antarctica: recent sedimentary processes and conceptual implications. ***Marine Geology (In press)***.
11. García, M., Hernández-Molina, F.J., Alonso, B., Vázquez, T., Ercilla, G., Llave, E., Casas, D., Sub-circular depression structures and other erosive features at the Guadalquivir Bank Margin uplift, Gulf of Cadiz: interaction between bottom current, mass-wasting and tectonic processes. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.10.004. Available online in 2015.
12. Hernández-Molina, F.J., Llave, E., Sierro, F.J., Roque, C., Van der Schee, M., Williams, T., Ledesma, S., Arnais, A., Rosales, C., Brackenridge, R.E., Stow, D.A.V. Evolution of the Gulf of Cadiz Margin and west Portugal contourite depositional system: tectonic, sedimentary and paleoceanographic implications from IODP Expedition 339. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.09.013. Available online in 2015.
13. Hernández-Molina, F.J., Soto, M., Piola, A.R., Tomasini, J., Preu, B., Thompson, P., **Badalini, G.**, Creaser, A., Violante, R.A., Morales, E., Paterlini, M., De Santa Ana, H. A contourite depositional system along the Uruguayan continental margin: sedimentary, oceanographic and paleoceanographic implications. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.10.008. Available online in 2015.
14. Hernández-Molina, F.J., Wählin, A., Bruno, M., Ercilla, G., Llave, E., Serra, N., Roson, G., Puig, P., Rebesco, M., Van Rooij, D., Roque, C., González-Pola, C., Sánchez, F., Gómez, M., Preu, B., Schwenk, T., Hanebuth, Till J.J., Sánchez Leal, Till J.J., García-Lafuente, J., Brackenridge, Rachel E., Juan, C., Stow, Dorrik A.V.; Sánchez-González, J.M., Oceanographic processes and products around the Iberian margin: a new multidisciplinary approach. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.12.008. Available online in 2015.
15. Hodell, D., Lourens, L., Crowhurst, S., Konijnendijk, T., Tjallingii, R., Jimenez-Espejo, F., Skinner, L., Tzedakis, P.C., and the Shackleton Site Project Members (Abrantes, F., Acton, G. D., Bahr, A., Balestra, B., Llave, E., Carrara, G., Ducassou, E., Flood, R.D., Flores, J.A., Furota, S., Grimalt, J., Grunert, P., Hernández-Molina, F.J., Kim, J.K., Krissek, L.A., Kuroda, J., Li, B., Lofi, J., Margari, V., Martrat, B., Miller, M.D., Nanayama, F., Nishida, N., Richter, K., Rodrigues, T., Rodríguez-Tovar, F.J., Roque, A.C.F., Sanchez Goni, M.F., Sierro, F.J., Singh, A.D., Sloss, C.R., Stow, D.A.V., Takahimizu, Y., Tzanova, A., Voelker, A. Xuan, C., Williams, T., Zarikian, C.A., **2015**. A reference time scale for Site U1385 (Shackleton Site) on the SW Iberian Margin. ***Global and Planetary Change***, 49: 49-64. doi: 10.1016/j.gloplacha.2015.07.002
16. J. Valencia, J., Ercilla, G., Hernández-Molina, F.J., Casas, D., **2015**. Oceanographic MOWER Cruise. The International Archives of the Photogrammetry, ***Remote Sensing and Spatial Information Sciences***. XL-5/W5: 223-230. doi: 10.5194/isprsarchives-XL-5-W5-223-2015
17. Juan, C., Ercilla, G., Hernández-Molina, F.J., Estrada, F., Alonso, B., Casas, D., García, M., Farran, M., Llave, E., Palomino, D., Vázquez, J.T., Medialdea, T., Gorini, C., D'Acremont, E., El Moumni, B., Ammar, A., and CONTOURIBER, MONTERA and MOWER Teams. Seismic evidence of current-controlled sedimentation in the alboran sea during the Pliocene and quaternary: Palaeoceanographic implications. ***Marine Geology (Submitted)***. doi:10.1016/j.margeo.2016.01.006. Available online.
18. Lebreiro, S. M., L. Antón, I. Reguera, M. Fernández, E. Conde, A. I. Barrado, A. Yllera, 2015. Zooming into the Mediterranean Outflow fossil moat during the 1.2-1.8 million years period (Early-Pleistocene) - An approach by radiogenic and stable isotopes, sp vol Mediterranean Outflow, ***Global Planetary Change***, 135, 104-118,. 10.1016/j.gloplacha.2015.10.010.
19. Llave, E., Hernández-Molina, F.J., Ercilla, G., Roque, C., Van Rooij, D., García, M., Juan, C., Mena, A., Brackenridge, R.E., Jané, G., Stow, D.A.V., Gómez-Ballesteros, M., Deep water circulation around the Iberian continental margin: state of the art and future implications. ***Marine Geology (In press)***.
20. Lofi, J., Voelker, A., Ducassou, E., Hernández-Molina, F.J., Bahr, A., Galvani, A., Lourens, L., Sierro, F.J., Williams, T., Quaternary record in the Gulf of Cádiz and Portuguese Contourite Depositional Systems derived from Natural Gamma Ray records. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.12.005. Available online in 2015.
21. Macías, J., Vázquez, J.T., Fernández-Salas, L.M., González-Vida, J.M., Bárcenas, P., Castro, M.J., Díaz-del-Río, V., Alonso, B. **2015**. The Al-Borani submarine landslide and associated tsunamis. A modelling approach. *Marine Geology*, doi: 10.1016/j.margeo.2014.12.006.
22. Mena, A., Francés, G., Pérez-Arлуca, M., Aguiar, P., Barreiro, J.D., Iglesias, A. & Barreiro, A. **2015**. A novel sedimentological method based on CT-scan: use for tomographic characterization of the Galician Interior Basin and anidoc development as a specific software. ***Sedimentary Geology***, 321: 123-138. (doi: 10.1016/j.sedgeo.2015.03.007).
23. Palomino, D., López-González, N., Vázquez, J.T., Fernández-Salas, L.M., Rueda, J.L., Sánchez-Leal, R., Díaz-del-Río. Multidisciplinary study of mud volcanoes and diapirs and their relationship to seepages and bottom currents in the Gulf of Cadiz continental slope (northeastern sector). ***Marine Geology (in press)***. doi:10.1016/j.margeo.2015.10.001. Available online in 2015.

24. Pérez L.F., Maldonado, A., Hernández-Molina, F.J., Lodolo, E., Bohoyo, F., Galindo-Zaldívar, J., 2015. Tectonic and oceanographic control of sedimentary patterns in a small oceanic basin: Dove Basin (Scotia Sea, Antarctica). ***Basin Research***, 1: 1-22. doi: 10.1111/bre.12148
25. Pérez, L.F., Hernández-Molina, F.J., Esteban, F.D., Tassone, A., Piola, A.R., Preu, B., Violante, R.A., Lodolo, E., 2015. Erosional and depositional contourite features at the western Scotia Sea - Southern Atlantic Ocean Transition: correlations with regional water masses circulation. ***Geo-Marine Letters***, 35 (4): 271-288. DOI: 10.1007/s00367-015-0406-6.
26. Sánchez Goñi, M.F., Llave, E., Oliveira, D., Naughton, F., Desprat, S., Ducassou, E., Hodell, D.A., Hernández-Molina, F.J., 2015. Climate changes in south western Iberia and Mediterranean Outflow variations during two contrasting cycles of the last 1 Myrs: MIS 31/30 and MIS 12/11. ***Global and Planetary Change***. 136: 18-29. doi:10.1016/j.gloplacha.2015.11.006.
27. Takashimizu, Y., Kawamura, R., Rodríguez-Tovar, F.J., Dorador, J., Ducassou, E., Hernández-Molina, F.J., Stow, D.A.V., Alvarez-Zarikian, C., Reworked tsunami deposits by bottom currents: circumstantial evidences from Late Pleistocene to Early Holocene in the Gulf of Cadiz. ***Marine Geology (In press)***. doi:10.1016/j.margeo.2015.09.009. Available online in 2015.

Work submitted to SCI journals

1. Mena, A., Cacho, I., Francés, G. & González-Álvarez, R. Multi-proxy SST reconstruction from the NW Iberian Margin during the last 60 ka BP: decoding the seasonal impact of the Heinrich Events. ***Submitted to Paleocceanography***
2. Mena, A., Francés, G., Pérez-Arlucea, M., Hanebuth, T.J.J., Nombela, M.A. & Bender, B. Sedimentary evolution of the Galicia Interior Basin during the last 60 ka: Sedimentation processes and paleoceanographic significance. ***Submitted to Journal of Quaternary Science***.
3. van der Schee, M., Sierro, F.J., Jimenez-Espejo, Hernández-Molina, F.J., Flecker, R., Gutjahr, M., F.J., Flores, J.A., Grunet, P., Gracia-Gallardo, A., Andersen, N., Evidence of MOW in the Gulf of Cádiz immediately after the opening of the Gibraltar Strait. ***Submitted to Marine Geology***

II. Book / Spanish journals

1. Casas, D., Casalbore, D., Yenes, M., Urgeles, R. 2015. Submarine mass movements around the Iberian Peninsula. The building of continental margins through hazardous processes. In: Procesos geológicos en el Margen Continental Ibérico: nuevos avances y tendencias, Maestro, A.; Ercilla, G; Hernández-Molina, F.J. (Invited Editors). ***Boletín Geológico y Minero***, 126 (2-3): pp. 257-278.
2. Casas, D., Ercilla, G., Hernández-Molina, F. J., Roque, C. & MOWER cruise team. 2015. Bedforms of the Mediterranean outflow current generated at the exit of the Strait of Gibraltar. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 603-605, N° Depósito Legal: MA 1272-2015.
3. Collart, T., Stewart, H., Howell, K., Bourillet, J.F., Llave, E., Blamart, D., Mienis, F., Van Rooij, D., 2015. Using Cold-water coral mini-mounds as analogue for giant mound growth: assessment of environmental drivers and anthropogenic impact. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 659-662. N° Depósito Legal: MA 1272-2015.
4. Ercilla, G., Juan, C., Alonso, B., Estrada, F., Vázquez, J. T., Casas, D., Hernández-Molina, F. J., El Moumni, B., D'Acremont, E. & Gorini, C., 2015. Interaction between alongslope and downslope sedimentary processes in the Alboran Sea during the Pliocene and Quaternary. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 567-570. N° Depósito Legal: MA 1272-2015.
5. García, M., Ercilla, G., Alonso, B., Estrada, F., Jané, G., Mena, A., Alvéz, T., Juan, C. 2015. Deep-water turbidite systems: a review of their elements, sedimentary processes and depositional models. Their characteristics on the Iberian margins. In: Procesos geológicos en el Margen Continental Ibérico: nuevos avances y tendencias, Maestro, A.; Ercilla, G; Hernández-Molina, F.J. (Invited Editors). ***Boletín Geológico y Minero***, 126 (2-3): 189-218, ISSN: 0366-0176.
6. García, M., F.J. Hernández-Molina, B. Alonso, J.T. Vázquez, G. Ercilla, E. Llave, D. Casas. 2015. The Diego Cao channel and its morphological depressions (Guadalquivir Bank margin uplift, Gulf of Cadiz). Oceanographic and sedimentary implications. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 559-562. N° Depósito Legal: MA 1272-2015.
7. Gómez-Ballesteros, M., Sánchez, F., García-Alegre, A., González-Pola, C., Hernández-Molina, F.J., Ercilla, G., Llave, E., Mink, S., 2015. Caracterización morfosedimentaria del Banco Le Danois (AMP El Cachucho, mar Cantábrico). *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 373-376, N° Depósito Legal: MA 1272-2015.
8. Guitián, J., Usó, J., Mena, A., Pérez-Arlucea, M., Francés, G. & Equipo MOWER. 2015. Características sedimentarias de un canal de corriente profunda en un sistema sedimentario contornítico arenoso (golfo de Cádiz). *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 253-256, N° Depósito Legal: MA 1272-2015.
9. Hernández-Molina, F.J., Wählin, A., Bruno, M., Ercilla, G., Llave, E., Serra, N., Roson, G., Puig, P., Rebesco, M., Van Rooij, D., Roque, D., González-Pola, C., Sánchez, F., Gómez, M., Preu, B., Schwenk, T., Hanebuth, T.J.J.,

- Sánchez Leal, R.F., García-Lafuente, J., Brackenridge, R.E., Juan, C., Stow, D.A.V., Sánchez-González, J.M. **2015**. Oceanographic processes and products around the Iberian margin: a new multidisciplinary approach. In: Procesos geológicos en el Margen Continental Ibérico: nuevos avances y tendencias, Maestro, A.; Ercilla, G; Hernández-Molina, F.J. (Invited Editors). *Boletín Geológico y Minero*, 126 (2-3): 279-326, ISSN: 0366-0176.
10. Llave, E., Hernández-Molina, F.J., Ercilla, G., García, M., Roque, C., Juan, C., Mena, A., Preu, B., Van Rooij, D., Rebesco, M., Brackenridge, R., Jané, G., Stow, D.A.V., Gómez-Ballesteros, M., **2015**. Contourite deposits related to Mediterranean water masses around Iberia: state of the art and future implications. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 417-420, N° Depósito Legal: MA 1272-2015.
 11. Llave, E., Hernández-Molina, F.J., Ercilla, G., Roque, C., Van Rooij, D., García, M., Juan, C., Mena, A., Brackenridge, R., Jané, G., Stow, D., Gómez-Ballesteros, M., **2015**. Bottom current processes along the Iberian continental margin. In: Procesos geológicos en el Margen Continental Ibérico: nuevos avances y tendencias, Maestro, A.; Ercilla, G; Hernández-Molina, F.J. (Invited Editors). *Boletín Geológico y Minero*, 126 (2-3): 219-256, ISSN: 0366-0176, 2015.
 12. López-González, N., Alonso, B., Casas, D., Vázquez, J.T., Palomino, D., Ercilla, G., Juan, C., García, M., Estrada, F., **2015**. End-member modelling to recognize sediment sources in contourites: a case study in the Alboran Sea. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 571-574. N° Depósito Legal: MA 1272-2015.
 13. Maestro, A., G. Ercilla, F.J. Hernández-Molina (Eds. invitados), **2015**. Procesos geológicos en el margen continental Ibérico: nuevos avances y tendencias. *Boletín Geológico y Minero*, 126 (2-3): 179-641, ISSN: 0366-0176, N° Depósito Legal: MA 1272-2015.
 14. Mateus, A., Cachão, M., Roque, C., Hernández-Molina, F.J., Ercilla, G., Casas, D., & MOWER Cruise party., **2015**. Calcareous Nannofossils as indicators of mass-transport deposits (CONDRIBER project). *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 437-439, N° Depósito Legal: MA 1272-2015.
 15. Mena, A., Francés, G. & González-Álvarez, R. **2015**. Surface oceanographic conditions of the Galicia Interior Basin during the past 60 ka: planktonic foraminifera analysis. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 197-200. N° Depósito Legal: MA 1272-2015.
 16. Palomino, D., Alonso, B., Lo Iacono, C., Casas, D., d'Acromont, E., Ercilla, G., Gorini, C., Vázquez, J.T. **2015**. Seamounts and Seamount-like Structures of the Alborán Sea. In: Würtz, M. and M. Rovere (Eds). *Atlas of the Mediterranean Seamounts and Seamount-like Structures*. Gland, Switzerland and Málaga, Spain: IUCN. pp. 20-57.
 17. Roque, C., Hernández-Molina, F.J., Ercilla, G., Casas, D., Quartau, R., Llave, E., Alonso, B., Farran, M., Mena, A., Francés, G., & MOWER Cruise Party. **2015**. Slope failure and mass movements in the Sines Contourite Drift (West Portuguese Margin): preliminary results. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 579-581. N° Depósito Legal: MA 1272-2015.
 18. Roque, C., Silva, P.F., Drago, T., Lopes, A., Alonso, B., Vázquez, J.T., Casas, D., López-González, N., Ercilla, G., Neres, M., **2015**. Vertical zonation of bioturbation and mass movements in the Portimão Bank (Gulf of Cadiz, SW Iberia). *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 501-504. N° Depósito Legal: MA 1272-2015.
 19. Usó, J., Guitián, J, Mena, A., Francés, G., Pérez-Arlucea, M. & Equipo MOWER. **2015**. Variabilidad de la intensidad de la MOW en el sector oriental del golfo de Cádiz: implicaciones climáticas. *Volumen de Comunicaciones presentadas en el VIII Simposio sobre el Margen Ibérico Atlántico*. Ediciones Sia Graf, Málaga, pp.: 225-228. N° Depósito Legal: MA 1272-2015.
 20. Vázquez, J.T., Alonso, B., Fernández-Puga, M.C., Gómez-Ballesteros, M., Iglesias, J., Palomino, D., Roque, C., Ercilla, G., Díaz-del-Río, V., **2015**. Seamounts along the Iberian continental margins In: Procesos geológicos en el Margen Continental Ibérico: nuevos avances y tendencias, Maestro, A.; Ercilla, G; Hernández-Molina, F.J. (Invited Editors). *Boletín Geológico y Minero*, 126 (2-3): 483-514, ISSN: 0366-0176.

III. Contributions to congresses

1. Ausín, B., Flores, J.-A., Sierro, F.J., Hernández-Almeida, I., Grosjean, M., Francés, G., Alonso, B., **2015**. Reconstructing sea surface salinity for the last 25 kyr in the western Mediterranean from a coccolithophore-based transfer function. 15th International Nannoplankton Association Meeting, Bohol, Philippines, 7-16 March.
2. Ausín, B., Flores, J.A., Sierro, F.J., Hernández-Almeida, I., Grosjean, M., Francés, G., Alonso, B. **2015**. Reconstructing Sea Surface Salinity in the Western Mediterranean from a coccolithophore-based Transfer Function. Tipo de participación: Oral. 15th International Nannoplankton Association Meeting. Bohol (Filipinas), 7-16 de marzo de 2015.
3. Bahr, A., Kaboth, S., Jiménez-Espejo, F.J., Hernández-Molina, F.J., Lourens, F., Reichert, G.-J., Röhl, U., **2015**. Coupled low- and high-latitude forcing on Mediterranean Outflow strength. Oral presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.

4. Casas, D., Ercilla, G., Hernández-Molina, F. J., Roque, C. and MOWER cruise team, 2015. Bedforms of the Mediterranean outflow current generated at the exit of the Strait of Gibraltar. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
5. Casas, D., García, M., Bohoyo, F., Maldonado, A., Ercilla, G. The MAGIA Mass-Wasting complex. Morphology and processes affecting the central Bransfield Basin (Antarctica). Oral presentation. XII INTERNATIONAL SYMPOSIUM ON ANTARCTIC EARTH SCIENCES. 13-17 July, 2015. Goa (India).
6. Casas, D., Gemma, E., Hernández Molina, F.J. and MOWER Cruise Team (MOWER Project), 2015. Bottom current-generated bedforms: the action of the MOW (Mediterranean outflow). Oral presentation. 31st Meeting of Sedimentology. 22-25 June, 2015. Kraków (Polish). Abstract volume.
7. Collart, T., Stewart, H., Howell, K., Bourillet, J.F., Llave, E., Blamart, D., Mienis, F., Van Rooij, D., **2015**. Using Cold-water coral mini-mounds as analogue for giant mound growth: assessment of environmental drivers and anthropogenic impact. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
8. Collart, T., Stewart, H., Howell, K., Bourillet, J.F., Llave, E., Blamart, D., Mienis, F., Van Rooij, D., **2015**. Using Cold-water coral mini-mounds as analogue for giant mound growth: assessment of environmental drivers and anthropogenic impact. Tipo de participación: Oral. XIX INQUA Congress. Nagoya, Japan. 26 Julio-2 Agosto, 2015. Abstract volume.
9. Ercilla, G., Estrada, F., Juan, C., Gorini, C., Alonso, B., D'Acromont, E., Casas, D., García, M., Hernández-Molina, F.J., Farran, M., Vázquez, J.T., Palomino, D., ; Llave, E., El Moumni, B., Ammar, A., **2015**. The Mediterranean and Atlantic connection: Seismic Clues from the Alboran Sea. Oral presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.
10. Ercilla, G., Juan, C., Alonso, B., Estrada, F., Vázquez, J. T., Casas D., Hernández-Molina, F.J., El Moumni, B., D'Acromont, E., Gorini, C., **2015**. Interaction between alongslope and downslope sedimentary processes in the Alboran Sea during the Pliocene and Quaternary. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
11. Galindo-Zaldivar, J., Bohoyo, F., Martos, Y.M., Ruano, P., Schreider, A.A., Suriach, E., Hernández-Molina, J., Maldonado, A., Lobo, F.J., Rodríguez-Fernández, J., **2015**. Oceanic Spreading of the Drake Passage: New Evidence of the Early Stages of Opening. Oral presentation. XII INTERNATIONAL SYMPOSIUM ON ANTARCTIC EARTH SCIENCES. 13-17 July, 2015. Goa (India).
12. García-Gallardo, Á., Van der Schee, M., Sierro, F.J., Jiménez-Espejo, F.J., Hernández-Molina, F.J., Grunert, P., Andersen, N., Piller, W. E., **2015**. Evidence of Mediterranean-Atlantic exchange immediately after the Miocene-Pliocene boundary in the Gulf of Cádiz. Oral presentation. STRATI 2015. 2nd International Congress on Stratigraphy. 19-23 July, 2015. Graz (Austria). Abstract volume
13. García, M., Hernández-Molina, F.J., Alonso, B., Vázquez, J.T., Ercilla, G., Llave, E., Casas, D., **2015**. The Diego Cao channel and its morphological depressions (Guadalquivir Bank margin uplift, Gulf of Cadiz). Oceanographic and sedimentary implications. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
14. Gómez-Ballesteros, M., Sánchez, F., García-Alegre, A., González-Pola, C., Hernández-Molina, F.J., Ercilla, M., Llave, E., Mink, S., **2015**. Morphosedimentary characterization of Le Danois Bank (El Cachucho MPA, Cantabrian sea). Poster presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
15. Graham, A.G.C., Larter, R.D., Channell, J.E.T., Hillenbrand, C.D., Hodell, D.A., Hernández-Molina, J., Gohl, K., Uenzelmann-Neben, G., Rebesco, M., Hogan, K., and the JR298 Shipboard Party, **2015**. Multichannel Seismic Investigations of Sediment Drifts on the west Antarctic Peninsula Pacific Margin: Preliminary Results from Research Cruise JR298. Oral presentation. XII INTERNATIONAL SYMPOSIUM ON ANTARCTIC EARTH SCIENCES. 13-17 July, 2015. Goa (India).
16. Guitián, J., Usó, J., Mena, A., Pérez-Arlucea, M., Francés, G. & Equipo MOWER. **2015**. Características sedimentarias de un canal de corriente profunda en un sistema sedimentario contornítico arenoso (golfo de Cádiz). Tipo de participación: Oral. VIII Simposio sobre el Margen Continental Ibérico Atlántico (MIA15). Málaga. 21-23 de septiembre de 2015
17. Hernandez-Molina, F.J., **2015**. Onset of Mediterranean Outflow into the North Atlantic. **2015**. Oral presentation. ECORD School of Rock 2015. Investigar e estudar a Terra sob o fundo do mar. 8-10 July, 2015. Loulé (Portugal). Abstract volume
18. Hernández-Molina, F.J., Sierro, F.J., Llave, E., Roque, C., Stow, D.A.V. Van der Schee, M., Williams, T., Ledesma, S., Arnaiz, A., Rosales, C., Brackenridge, R.E., **2015**. Late Miocene to present sedimentary stacking pattern of the Gulf of Cadiz Margin and west off Portugal: tectonic, sedimentary and paleoceanographic implications of IODP 339 expedition results. Poster presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.
19. Hernández-Molina, F.J., Sierro, F.J., Llave, E., Roque, C., Stow, D.A.V., Williams, T., Lofi, J., Van der Schee, M., Arnaiz, A., Ledesma, S., Rosales, C., Rodríguez-Tovar, F.J., Pardo-Igúzquiza, E., Brackenridge, R.E., **2015**. Evolution of the Gulf of Cadiz and west Portugal contourite depositional system: tectonic, sedimentary and paleoceanographic implications from IODP Expedition 339. Oral presentation. AGU Fall Meeting. 14-18 December, 2015. San Francisco (USA). Abstract volumen.
20. Hernández-Molina, F.J., Soto, M., Piola, A.R., Tomasini, J., Preu, B., Thompson, P., **Badalini, G.**, Creaser, A. Violante, R., Morales, E., Paterlini, M., De Santa Ana, H., **2015**. A contourite depositional system along the

- Uruguayan continental margin. Poster presentation. AGU Fall Meeting. 14-18 December, 2015. San Francisco (USA). Abstract volumen.
21. Larter, R.D., Graham, A.G.C., Hernandez-Molina, F.J., Channell, J.E.T., Hillenbrand, C.-D., Hogan, K.A., Uenzelmann-Neben, G., Gohl, K., Rebesco, M., Hodell, D.A. and the JR298 shipboard party, 2015. Multichannel Seismic Investigations of Sediment Drifts off West Antarctica and the Antarctic Peninsula: Preliminary Results from Research Cruise JR298. Poster presentation. AGU Fall Meeting. 14-18 December, 2015. San Francisco (USA). Abstract volumen.
 22. Lebreiro, S.M., L. Antón, M.I. Reguera, M. Fernández, E. Conde, A.I. Barrado. Zooming into the Mediterranean Outflow moat during the 1.2-1.8 million years period (Early-Pleistocene) - an approach by stable and radiogenic isotopes. RCMNS Interim Colloquium – Mediterranean-Atlantic Gateways (Neogene to Present), Oral Presentation, Rabat, Morocco, 5-9 May 2015
 23. Llave, E., Hernández-Molina, F.J., Brackenridge, R., Stow, D.A.V., Gutiérrez-Sánchez, R., Sierro, F.J., 2015. Sedimentology of sandy contourites occurring during the Pliocene and Quaternary on the middle slope of the Gulf of Cadiz. Poster presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.
 24. Llave, E., Hernández-Molina, F.J., Ercilla, G., García, M., Roque, C., Juan, C., Mena, A., Preu, B., Van Rooij, D., Rebesco, M., Brackenridge, R., Jané, G., Stow, D.A.V., Gómez-Ballesteros, M., 2015. Contourite deposits related to Mediterranean water masses around Iberia: state of the art and future implications. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
 25. Llave, E., Hernández-Molina, F.J., Stow, D.A.V., Brackenridge, R., 2015. Sandy contourites during the Pliocene and Quaternary on the middle slope of the Gulf of Cadiz: sedimentary and paleoceanographic implications. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
 26. Lofi, J., Ducassou, E., Voelker, A., Bahr, A., Lourens, L., Sierro, F.J., Hernández-Molina, F.J., Williams, T., Galvani, A., 2015. Regional scale Gamma Ray signature of the Gulf of Cadiz Contourite Depositional System over the last 1 My. Poster presentation. European Geosciences Union General (EGU). 12-17 April, 2015, Vienna (Austria) Abstract volume.
 27. Lofi, J., Ducassou, E., Voelker, A., Bahr, A., Lourens, L., Sierro, F.J., Hernández-Molina, F.J., Williams, T., Galvani, A., 2015. Regional scale Gamma Ray signature of the Gulf of Cadiz Contourite Depositional System over the last 1 My. Poster presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.
 28. López-González, N., Alonso, B., Casas, D., Vázquez, J.T., Palomino, D., Ercilla, G., Juan, C., García, M., Estrada, F., 2015. End-member modelling to recognize sediment sources in contourites: a case study in the Alboran Sea. VIII Simposio Internacional sobre el Margen Ibérico Atlántico (MIA15). 21-23 Septiembre. Málaga. España.
 29. Mateus, A., Cachão, M., Roque, C., Hernández-Molina, F.J., Ercilla, G., Casas, D. and MOWER Cruise party, 2015. Calcareous Nannofossils as indicators of mass-transport deposits (CONDRIBER project). Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
 30. Mena, A., Francés, G. & González-Álvarez, R. 2015. Surface oceanographic conditions of the Galicia Interior Basin during the past 60 ka: planktonic foraminifera analysis. Tipo de participación: Oral. VIII Simposio sobre el Margen Continental Ibérico Atlántico (MIA15). Málaga. 21-23 de septiembre de 2015.
 31. Pérez, L.F., Bohoyo, F., Casas, D., Hernández-Molina, F.J., Galindo-Zaldívar, J., Maldonado, A., Ruano, P., 2015. Tectonics approach from Mass Transport Deposits analysis: the Scotia-Antarctic plate boundary. Oral presentation. XII INTERNATIONAL SYMPOSIUM ON ANTARCTIC EARTH SCIENCES. 13-17 July, 2015. Goa (India).
 32. Pérez, L.F., Hernández-Molina, F.J., Maldonado, A., Bohoyo, F., Galindo-Zaldívar, J., Lodolo, E., 2015. Southern Ocean connections: the evolution of the south Scotia Sea basins. Poster presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.
 33. Roque, C., Hernández-Molina, F.J., Ercilla, G., Casas, D., Quartau, R., Llave, E., Alonso, A., Ferran, M., Mena, A., Francés, G. & MOWER Cruise Party. 2015. Slope failure and mass movements in the Sines Contourite Drift (West Portuguese Margin): preliminary results. Tipo de participación: Oral. VIII Simposio sobre el Margen Continental Ibérico Atlántico (MIA15). Málaga. 21-23 de septiembre de 2015.
 34. Roque, C., Hernández-Molina, F.J., Ercilla, G., Casas, D., Quartau, R., Llave, E., Alonso, B., Ferran, M., Mena, A., Francés, G. and MOWER Cruise Party, 2015. Slope failure and mass movements in the Sines Contourite Drift (West Portuguese Margin): preliminary results. Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
 35. Roque, C., Madureira, P., Hernández-Molina, F.J., Santos de Campos, A., Quartau, R., Carrara, G., Brandão, F., Vázquez, J.T., Somoza, L., 2015. Acoustic evidences of along-slope processes associated with mass movement deposits on the Madeira Island lower slope (Eastern Central Atlantic). Oral presentation. VIII Symposium on the Atlantic Iberian Continental Margin. 21-23 Sep, 2015. Malaga (Spain). Abstract volumen.
 36. Sierro, F.J., Hodell, D., Andersen, N., Flores, J.A., Jimenez-Espejo, F.J., Bahr, A., Hernandez-Molina, F.J., Ducassou, E., 2015. Astronomical and millennial-scale events of freshwater discharge to the Mediterranean triggered collapses of the Mediterranean Outflow at Gibraltar during the last 150 Kyr. Poster presentation.

- RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume.
37. Stow, D.A.V.; Hernández-Molina, F.J. and the Shipboard Scientific Party, 2015. Contourite Sedimentation in the deep water Gulf of Cadiz: Principal Results & New Paradigms, IODP Expedition 339. Oral presentation. 31st Meeting of Sedimentology. 22-25 June, 2015. Kraków (Polish). Abstract volume.
 38. Thompson, P., Badalini, G., Wrigley, S., Hendy, J., Walker, R., Argent, J., Soto, M., de Sanata Ana, H., Gristo, P., Hernandez-Molina, F.J., 2015. Travelling without moving: ever-changing seabed morphology and the influence of contour currents, from Cretaceous to Present-day, within the Pelotas Basin, offshore Uruguay. Oral presentation. 31st Meeting of Sedimentology. 22-25 June, 2015. Kraków (Polish). Abstract volume.
 39. Thompson, P., Badalini, G., Wrigley, S., Wlaker, R., Argent, J., Hernandez-Molina, F.J., de Santa Ana, H., Soto, M., Tomasini, J., 2015. Complex Bedforms and Complex Water Masses: A Case Study from the Tertiary to Present-day, Pelotas Basin, Offshore Uruguay. Oral presentation. AGU Fall Meeting. 14-18 December, 2015. San Francisco (USA). Abstract volumen.
 40. Usó, J., Guitián, J., Mena, A., Francés, G., Pérez-Arlucea, M. & Equipo MOWER. 2015. Variabilidad de la intensidad de la MOW en el sector oriental del golfo de Cádiz: implicaciones climáticas. Tipo de participación: Oral. VIII Simposio sobre el Margen Continental Ibérico Atlántico (MIA15). Málaga. 21-23 de septiembre de 2015.
 41. Valencia, J., Ercilla, G., Hernández-Molina, F.J., Casas, D., 2015. Oceanographic MOWER Cruise. Oral presentation. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences. 16-17 April, 2015. Piano di Sorrento (Italy). Abstract volume, 103-104.
 42. van der Schee, M., Sierro, F.J., Flecker, R., Gutjahr, M., Jimenez-Espejo, F.J., Hernandez-Molina, F.J., Grunert, P., Garcia Gallardo, A., Flores, J.A., Hodell, D., Andersen, N., 2015. Discussion on identification of the Mio-Pliocene boundary and onset of the MOW recorded in IODP Site U387C in the Gulf of Cádiz. Oral presentation. RCMNS Interim Colloquium, Mediterranean – Atlantic Gateway (Neogene to present). 5-8 May, 2015. Rabat (Morocco). Abstract volume

Meeting organisation

The next meeting were organized / coordinate during 2015 for different researches and institutions related to the IGCP-619 Project;

- RCMNS interim colloquium “Mediterranean – Atlantic Gateways (Neogene to present)”, 5-8 May, 2015. Rabat (Morocco), <http://www.mediterraneanatlanticgateways.net/>
- VIIIth International Symposium on the Iberian Atlantic Margin MIA15 (<http://www.ma.ieo.es/MIA15/>), 21-23 September, Málaga. Spain.
- During 2015 a field trip in Cyprus was organised between the 4th and the 9th of December. Several contourite outcrops were visited and studied. A field trip to Morocco has been coordinating to visit some contourites outcrops.

IGCP Meetings Planned

- Special Symposium “*Deep-Water Circulation: Processes and Products*” during the 35th International geological Congress (IGC). Cape Town, SouthAfrica (27 August – 4 September, 2016).
- Course: “*Criteria for identifying contourite deposits*” during the 35th International geological Congress (IGC). Cape Town, South Africa (27 August – 4 September, 2016).

Ph.D./ Master research work as result of the SWG-IGCP 619:

Thesis (PhD)

- C. Juan Valenzuela. “Pliocene and Quaternary stratigraphy stacking pattern and evolution of the Alboran Sea”. CMIMA-CSIC. En preparación (sera presentada en 2015). Supervisors: G. Ercilla (CMIMA-CSIC); T. Medialdea (IGME) and F.J. Hernández-Molina (RHUL, UK).
- G. Jané. "Morphological study of the northern Iberian margin and abyssal plains: recent tectonic and sedimentary evolution implications". Defensa publica el 21 de Diciembre de 2015. CalificaciÓN: Sobresaliente “*Cum Laude*”. Supervisors: Dr. Jerónimo López (Autónoma Madrid Univ.), Dr. Adolfo Maestro and Estefanía Llave (Geological Survey of Spain).

Masters (MSc)

1. Juan Usó Canós. “Análisis del testigo sedimentario MW14-CG86B. Caracterización Paleocanográfica y

Paleoclimática”. Máster en Oceanografía. Universidad de Vigo, 2015. Supervisors: G. Frances y M. Pérez-Arlucea (Univ. Vigo)

2. José Guitián Bermejo. “Análisis del testigo MW14-CG-84 en la zona Este del golfo de Cádiz; Correlación estructura interna y formas de fondo”. Máster en Oceanografía. Universidad de Vigo. 2015. Supervisors: M. Pérez-Arlucea y G. Frances (Univ. Vigo)
3. Irene Díez Gracia. “Evaluación y calibración de las densidad obtenida mediante TAC en registros sedimentarios marinos y su comparación con otras técnicas de análisis sedimentario”. Máster en Oceanografía. Universidad de Vigo. 2016. (October 2015-Present time). Supervisors: A. Mena y M. Nombela (Univ. Vigo).
4. Claudia Jones. “Sandy contourites deposits in the Site U1388, IODP Expedition 339. Gulf of Cadiz”. MSc in Geology. Royal Holloway, University of London. 2016. September 2015-Actualidad. Supervisors: F. J. Hernández (RHUL, UK); E. Llave (IGME) y D. A.V. Stow (HW, UK)

Other actions

- During 2015 has being coordinating an Elsevier *Virtual Special Issue (VSI) related to the IODP Expedition 339* with two different volumes (one in Global and Planetary Changes (GPC), one in Marine Geology (MG)) unified into one “Virtual Special Issue”.

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. Alvarez-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. Alvarez-Zarikian

3.2 Projects with active working groups.

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

Leader: Prof. Dr. José Ignacio Valenzuela Ríos; Secretary: Dr. Jau-Chyn Liao

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Abstract: The activities of the Spanish Working Group (SWG) during 2015 have been mainly focussed on four aspects: 1) participation in the international IGCP-meeting; 2) presentation of results, both on professional meetings and in specialised papers; 3) organisation of the annual meeting in conjunction with the Spanish Palaeontological Society and 4) organising a field workshop in the Spanish Pyrenees for young international students.

Regarding to the first aspect, the SWG has attended the main IGCP-596 International meeting planned for this year in Brussels with six contributions. Besides, and giving the relevance for disseminating the results in specific International meetings, the STRATI 2015 in Graz (five contributions) and the GSA in Baltimore (two contributions) were attended.

As in past years, the SGW organised a Special Symposium within the frame of the XXXI Annual Meeting of the Spanish Palaeontological Society, six oral contributions and two posters were presented this year. At the same time, the annual business meeting of the SWG was held. This year the meeting took place in Baeza.

The SWG leader submitted an IGCP-596 closely related training proposal for a young student within the frame of the RISE-DAAD program that was found. As a consequence, a German student from the University of Bonn spent over two months in the University of Valencia. José Ignacio Valenzuela-Ríos and Jau-Chyn Liao (Secretary of the SWG) will supervised a Chinese student from University of Nanjing. Taking the opportunity of having two international students at the Department of Geology, a training course for young students in the Pyrenees was organised.

During this year four new members (all them related to paleobotanical studies) have joined the SWG. One is a Professor, another one a Post-doc student and two others Ph. D. students.

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 Competitivity (MINECO), Grant CGL2011-24775 and the German Academic Exchange Service (DAAD) trough the RISE-WELT Program.

Next year the SWG will organise a Special Symposium in connection to the XXXII Annual Meeting of the Spanish Paleontological Society that will take place in Molina de Aragón (Guadalajara province). Besides, it is the intention to participate, at least, in the Joint SDS-IGCP meeting to be held in Ghent (Belgium) and to attend the IGC in Cape Town.

Currently the SWG is composed of 29 members (14 females and 15 males; including 4 Post-docs; 5 Ph. D. students and 1 Master Student).



Participants in front of the Royal Nature Sciences Museum of Belgium during the joint IGCP 596-SDS International meeting in Brussels. September 2015.



Participants in the XXXI Conference of the Spanish Paleontological Society, Baeza September 2015 where IGCP-596 special Symposium was held.

Publications and contributions to congresses

During this year the SWG has published six scientific papers, eight book chapters, 15 abstracts and co-organised a major Conference and symposium.

Peer Review Papers

CASCALES-MIÑANA, B.; GERRIENNE, P., MORENO-DOMÍNGUEZ, R.; JINZHUANG, X.; VALENZUELA-RÍOS, J.I.; DÍEZ, J.B.; RIAL, G. & STEEMANS, P. 2015. A new highly diverse palynoflora from the Lower Devonian Noguerras Formation of the Iberian Peninsula. *Historical Biology*. doi: 10.1080/08912963.2015.1111885

GARCÍA-ALCALDE, J. L. & HERRERA, Z. (2015). Braquiópodos del Devonico Inferior (Lochkoviense-Praguense) de Palencia y Celtiberia (N de España). *Trabajos de Geología de la Universidad de Oviedo* (in press).

JUNCAL, M.A., DIEZ, J.B., BROUTIN, J. & MARTÍNEZ-GARCÍA, E. (2015): Permian palynological data of Sotres Formation (Picos de Europa, Asturias, North of Spain). *Spanish Journal of Paleontology* (in press).

MARTÍNEZ CHACÓN, M.L. & WINKLER PRINS, C.F. (2015): Late Bashkirian-early Moscovian (Pennsylvanian) Productidae (Brachiopoda) from the Cantabrian Mountains (NW Spain). *Geobios*, <http://dx.doi.org/10.1016/j.geo-bios.2015.07.007>.

SLAVÍK, L., VALENZUELA-RÍOS, J. I., HLADIL, J., CHADIMOVÁ, L., LIAO, J.-C., HUŠKOVÁ, A., CALVO, H. & HRSTKA, T. (2015?): Warming or cooling in the Pragian? Sedimentary record and petrophysical logs across the Lochkovian–Pragian boundary in the Spanish Central Pyrenees. *Palaeogeography, Palaeoclimatology, Palaeoecology* (accepted).

VALENZUELA-RÍOS, J. I., SLAVÍK, L., LIAO, J.-C., CALVO, H., HUŠKOVÁ, A. & CHADIMOVÁ, L. (2015): The middle and upper Lochkovian (Lower Devonian) conodont successions in key peri-Gondwana localities (Spanish Central Pyrenees and Prague Synform) and their relevance for global correlations. *Terra Nova* **27**: 409-415. doi: 10.1111/ter.12172

Book-Chapters

CARDOSO, C.N., SANZ-LÓPEZ, J., BLANCO-FERRERA, S. (2015): Cambios paleoambientales y bioestratigrafía de conodontos en el Carbonífero Medio-Superior de la Cuenca del Amazonas, Brasil. XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 89-91.

GARCÍA-FORNER, A., RUIZ-GIJÓN, T., VALENZUELA RÍOS, J.I. (2015): Creación y Gestión de una base de datos conjunta como herramienta en un Grupo de Trabajo Virtual: Ejemplo BD Eventos del Devónico Español. XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 135-137.

HERRERA, Z., GARCÍA-ALCALDE, J.L. (2015): Eucharitina (Braquiópodo Rinconélido) del Devónico Inferior celtibérico. XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 149-151.

LIAO, J.-C., VALENZUELA-RÍOS, J.I., GOUWY, S. (2015): El evento Tagánico (Devónico medio) en el Pirineo Central. XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 156, 157. ISBN: 978-84-8439-920-9

MARTÍNEZ CHACÓN, M.L. (2015): Revisión de las especies de *Isogramma* Meek & Worthen, 1870 (Dictyonellida, Brachiopoda) de la Cordillera Cantábrica. XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 174-176.

MORENO, C., GONZÁLEZ, F., SÁEZ, R. & RÁBANO, I. (2015): Macrofauna finidevónica del Suroeste Portugués (Zona Surportuguesa). XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 210-212.

RODRÍGUEZ, S., SAID, I., SOMERVILLE, I.D., CÓZAR, P., CORONADO, I. (2015): Serpukhovian coral assemblages from Idmarrach and Tirhela Formations (Adarouch, Morocco). XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 263-265.

VALENZUELA-RÍOS, J.I., SLAVÍK, L., LIAO, J.-C., CALVO, H., HUŠKOVÁ, A., CHADIMOVÁ, L. (2015): Una nueva zonación de conodontos para el Lochkoviense medio y superior. XXXI Jornadas de Paleontología: Baeza, 7-10 de Octubre de 2015. En: Libro de Resúmenes, Editor: M. Reolid; pp. 301, 302.

Abstract and Proceedings

GOUWY, S., LIAO, J.-C. & VALENZUELA-RIOS, J. I. (2015): Upper Eifelian–Lower Frasnian (Middle–Upper Devonian) conodont biostratigraphy improved by graphic correlation in the Spanish Central Pyrenees. In: *STRATA 2015*, série 1, vol. 16: 64. IGCP596–SDS Symposium (Brussels, September 2015)

HUŠKOVÁ, A., SUTTNER, T., SLAVÍK, L., VALENZUELA-RÍOS, J. I., LIAO, J.-C., GATOVSKY, Y. A., ARIUNCHIMEG, Y., KIDO, E., GONCHIGDORJ, S., WATERS, J. A., CARMICHAEL, S. K. & BATCHELOR, C. (2015): Late Devonian conodonts of western Mongolia: preliminary results. In: *STRATA 2015*, série 1, vol. 16: 70. IGCP596–SDS Symposium (Brussels, September 2015)

JUNCAL, M.A., KNIGHT, J.A. & DIEZ, J.B. (2015): Preliminary palynological data of the Carboniferous stratigraphical sections from Sabero (NW Spain). *Agora Paleobotanica 2015*: 14.

LIAO, J.-C. & VALENZUELA-RIOS, J. I. (2015): The Bio- and Chronostratigraphic history of the Givetian (Middle Devonian): from one subzone to three substages. *Berichte des Institutes für Erdwissenschaften der Karl-Franzens-Universität Graz/Austria*, **21**: 226. ISSN: 1608-8166

LIAO, J.-C., VALENZUELA-RIOS, J. I. & GOUWY, S. (2015): Givetian (Middle Devonian) Event in the Spanish Central Pyrenees. *Berichte des Institutes für Erdwissenschaften der Karl-Franzens-Universität Graz/Austria*, **21**: 227. ISSN: 1608-8166

LIAO, J.-C., VALENZUELA-RÍOS, J.I. & GOUWY, S. (2015): Was the Taghanic Event (Givetian, Middle Devonian) associated with a significant conodont extinction? A Pyrenean view. In: *Conodonts from Black Shales and Other Rocks: In Honor of Anita G. Harris*. Geological Society of America Abstracts with Programs. Vol. 47, No. 7, p. 273.

MAILLET, S., MILHAU, B., VREULX, M. & SÁNCHEZ DE POSADA, L. C. (2015): Givetian ostracods of the Candás Formation (Asturias, north-western Spain): taxonomy, stratigraphy, palaeoecology, relationship to global events and palaeogeographical implications. In: *STRATA 2015*, série 1, vol. 16: 87, 88. IGCP596–SDS Symposium (Brussels, September 2015).

NAVAS-PAREJO, P. & KÖNIGSHOF, P (2015): Devonian and Carboniferous shallow-water successions from Sonora (NW Mexico) and their importance in global event studies. In: *STRATA 2015*, série 1, vol. 16: 109. IGCP596–SDS Symposium (Brussels, September 2015).

NAVAS-PAREJO, P., SANDBERG, C. A. & POOLE, F. G. (2015): Paleogeographic implications of early Famennian *crepida* Zone conodont faunas, Sonora, NW Mexico. In: *STRATA 2015*, série 1, vol. 16: 111. IGCP596–SDS Symposium (Brussels, September 2015).

RIAL, G., CASCALES-MIÑANA, B., GOZALO, R & DIEZ, J.B. (2015): Discovery of a new spore assemblage in the Middle Devonian of Iberian Peninsula. *Agora Paleobotanica 2015*: 22

SLAVÍK, L., HLADIL, J., CHADIMOVÁ, L., VALENZUELA-RÍOS, J. I., HUŠKOVÁ, A., LIAO, J.-C. (2015): Cooling or warming in the Pragian? The sedimentary records and petrophysical logs from the key peri-Gondwanan sections In: *STRATA 2015*, série 1, vol. 16: 130-131. IGCP596–SDS Symposium (Brussels, September 2015).

SLAVÍK, L., VALENZUELA-RÍOS, J. I., HLADIL, J., CHADIMOVÁ, L., LIAO, J.-C., HUŠKOVÁ, A., CALVO, H., HRSTKA, T. (2015): The sedimentary record and petrophysical logs from the Spanish Central Pyrenees: Implications for paleoclimate change in the Early Devonian *Berichte des Institutes für Erdwissenschaften der Karl-Franzens-Universität Graz/Austria*, **21**: 350. ISSN: 1608-8166

VALENZUELA-RIOS, J. I. (2015): The Lochkovian (Lower Devonian) subdivision based on conodonts: from biozones to chronozones; past and future *Berichte des Institutes für Erdwissenschaften der Karl-Franzens-Universität Graz/Austria*, **21**:379. ISSN: 1608-8166

VALENZUELA-RÍOS, J.I. & LIAO, J.-C. (2015): Recognition of global Lower Devonian events in the Spanish Central Pyrenees; A conodont perspective. In: *Conodonts from Black Shales and Other Rocks: In Honor of Anita G. Harris*. Geological Society of America Abstracts with Programs. Vol. 47, No. 7, p. 274.

VALENZUELA-RIOS, J. I., MARTINEZ-PEREZ, C., LIAO, J.-C. (2015): Emsian (Lower Devonian) Event in the Aragonian Pyrenees (Spain). *Berichte des Institutes für Erdwissenschaften der Karl-Franzens-Universität Graz/Austria*, **21**: 380. ISSN: 1608-8166



Collecting in the classical Nismes section (Givetian/Frasnian boundary), Ardennes (Belgium). Thick limestone bed corresponds approximately to the base of the Frasnian. September 2015



Joint fieldwork in the classical Sourd d'Ave section, in the Ardennes. Upper part of the Fromelennes Fm., "Calcaire de Givet" Group (last thick limestone bed to the right) and lower part of the "Frasnes" Group (sample bags). September, 2015

Meeting organisation

The Spanish Working Group (SWG) has organised a Special IGCP Symposium within the frame of the XXXI Spanish Palaeontological Meeting. Within the Symposium eight 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: Baeza, Spain, (8-9 October 2015). Spain.

Number of participants: over 100 participants of nine countries.

Funding: IGCP-National Spanish Committee; CGL2011-24775 Spanish Grant from MINECO.

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 XXXII Annual Meeting of the Spanish Paleontological Society to be held in Molina de Aragón. Contacts with main organisers have already started.

Ph. D. finished

This year, on the 27th of July, the member of the SWG, Pilar Clariana presented and defended her Ph. D. with the title "Estratigrafía, estructura y su relación con el metamorfismo de la Zona Axial pirenaica en la transversal del Noroeste de Andorra y comarca del Pallars Sobirà y el Alt Urgell (Lleida)" at the University of Oviedo

Fieldwork in the Villech section (Spanish Pyrenees). Results support a worldwide conodont-based detailed correlation for Givetian and Frasnian. View of the lower Frasnian strata. June 2015.



Vertical works in one key section (Baen) for establishing high-resolution biostratigraphy and analysing biodiversity patterns change in the Spanish Pyrenees, one of the main aims of the IGCP-596. June 2015.

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: Kristina Djukic; University of Bonn. Project ES-ES-122: Evolution and Biodiversity of Lower Devonian Marine Life. End of August-end of October 2015.

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 2016

Next year the SWG will organise a Special Symposium in connection with the XXXII Annual Meeting of the Spanish Paleontological Society that will take place in Molina de Aragón. Besides, it is the intention to participate, at least, in the 35th IGC in Cape Town and in the Joint SDS-IGCP 596 to be held Ghent.

IGCP-618: Paleoclimate information obtained from past recharged groundwater

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Website: <http://www.igme.es/ProPaleoTD/default.htm>

Abstract: The Spanish Working Group of IGCP Project 618 "Paleoclimate information obtained from past recharged groundwater", that joined the Project in late 2013, has continued previous research lines about climate and human influence on waters in the area of Las Tablas de Daimiel National Park. This environment is a particular place as surface and groundwater interactions determine the evolution of this Mediterranean wetland and its sediments record the evolution of changing water levels and qualities as response to climate change and human action. In addition, the abundant archaeological information and documentary sources allow to check the information about these sedimentary proxies and ask questions about human behaviour in response to water availability. Three main lines of research have been conducted: 1) Cross-checking of paleoenvironmental information extracted from sedimentary proxies with archaeological and documentary sources about human activity in Las Tablas de Daimiel National Park. This line is done in cooperation with the Museo Comarcal de Daimiel (Regional Museum of Daimiel). 2) Analysis of the palaeoclimatic reconstructions for central Iberian Peninsula against those obtained from the Las Tablas de Daimiel sedimentary record and comparison to other reconstructions in the Mediterranean domain. 3) Interpretation of the isotopic and ages of groundwaters with emphasis on mathematical modelling.

Finally, it's worth to mention that the research team expend a noticeable amount of time in public outreach activities (lectures, radio, newspapers, etc.).



Water table recovery due to an extremely wet period between 2009-2013 allowing the Guadiana River underground waters feed again the National Park Tablas de Daimiel. This affected the environment that has been greatly altered by human activity during the last decades.

Publications and contributions to congresses

Castaño, S.; de la Losa, A.; Mediavilla, R.; Santisteban, J.I.; Martínez-Santos, P. (2015): Hydrochemical groundwater status in Las Tablas de Daimiel National Park wetland (Central Spain) after a long overexploitation period. En: *Abstracts of the 9th World Congress of EWRA: Water Resources Management in a Changing World: Challenges and Opportunities* (Harmancioglu, N., Cetinkaya, C.P., Gul, A., Barbaros, F. y Guven S.F., Eds.). Dokuz Eylul University Printing House. Izmir. pp. 295-296.

Celis, A.; Mediavilla, R.; de la Losa, A.; Santisteban, J.I.; Castaño, S. (2015): La ruptura del equilibrio en Las Tablas de Daimiel. *Tierra y Tecnología*, 46: 25-31.

Celis, A.; Santisteban, J.I.; Mediavilla, R.; Castaño, S.; de la Losa, A. (2015): El cuerpo de ingenieros militares en Las Tablas de Daimiel: Consecuencias de un proyecto ilustrado. En: *Ciencia y técnica entre la paz y la guerra. 1714, 1814, 1914. Vol. 2* (González Redondo, F.A., Coord.). Sociedad Española de Historia de las Ciencias y las Técnicas. Madrid. pp. 925-931.

Celis, A.; Santisteban, J.I.; Mediavilla, R.; Castaño, S.; de la Losa, A. (2015): El proyecto de desecación de Las Tablas de Daimiel de 1937 a través del registro sedimentario y de las fuentes historiográficas. In: *III Jornadas de Historia de Daimiel*. Ayuntamiento de Daimiel. pp. 259-272.

Celis, A.; Santisteban, J.I.; Mediavilla, R.; Castaño, S.; de la Losa, A. (2015): Cambios en Las Tablas de Daimiel en la segunda mitad del s. XIX y principios del s. XX. In: Alía Miranda, F., Anaya Flores, J. (dirs.), *I Congreso Nacional Ciudad Real y su provincia*. Tomo II. Instituto de Estudios Manchegos, Ciudad Real, pp. 452-467.

Castaño, S.; de la Losa Román, 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.

Mediavilla, R.; Santisteban, J.I.; Gil-García, M.J.; Ruiz-Zapata, M.B.; Castaño, S.; de la Losa, A. (2015): Out-of-phase temperature and aridity reconstruction for the last millennium in a

Mediterranean wetland. Comunicación oral presentada en el *XIX INQUA Congress (Quaternary Perspectives on Climate Change, Natural Hazards and Civilization)*. Nagoya (Japan).

Santisteban, J.I.; Mediavilla, R.; Castaño, S.; de la Losa, A. (2015): The Atlantic Multidecadal Oscillation record for the last millennium in a Mediterranean wetland. Comunicación oral presentada en el *XIX INQUA Congress (Quaternary Perspectives on Climate Change, Natural Hazards and Civilization)*. Nagoya (Japan).

Höbig, N.; Mediavilla, R.; Gibert Beotas, L.; Santisteban, J.I.; Melles, M.; Reicherter, K. (2015): Late Quaternary Variability from Saline Lake Characterization at Fuente de Piedra, Southern Spain. In: Rosen, M.R., Cohen, A., Kirby, M., Gierlowski-Kordesch, E., Starratt, S., Valero Garcés, B.L., Varekamp, J. (eds.), *Sixth International Limnogeology Congress—Abstract Volume*, Reno, Nevada, June 15–19, 2015: U.S. Geological Survey Open-File Report 2015-1092, pp. 91-92.

Santisteban, J.I.; Mediavilla, R.; Celis, A.; Castaño, S.; de la Losa, A. (2015): Millennial aridity cycles as a driver of human occupation in central Spain: a reinterpretation. Comunicación oral presentada en el Meeting *Progress in Quaternary archive studies in the Iberian Peninsula*. Sevilla (Spain).

Celis, A., Santisteban, J.I., Mediavilla, R. (2014). El cuerpo de ingenieros militares en Las Tablas de Daimiel: Consecuencias de un proyecto ilustrado. *XII Congreso de la Sociedad Española de Historia de las Ciencias y las Técnicas*. Madrid, (Spain).

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. *Culture, Climate and Environment Interactions at Prehistoric Wetland Sites*. Oeschger Centre for Climate Change Research, Institute of Archaeological Science, University of Bern, PAGES, Swiss National Science Foundation. Bern (Switzerland).

Castaño, S.; de la Losa, A.; Mediavilla, R.; Santisteban, J.I.; Martínez-Santos, P. (2014): Effect of hydraulic infrastructures on the chemical quality of the flooded area of Tablas de Daimiel National Park (Central Spain). *International Conference Wetlands 2014. IX European Wetland Congress. 6th European Pond Conservation Network. Wetlands Biodiversity and Services: Tools for Socio-Ecological Development*. Huesca (Spain).

In review

Santisteban, J.I.; Mediavilla, R.; Celis, A.; Castaño, S.; De la Losa, A. Millennial aridity cycles as a driver of human occupancy in central Spain? *Quaternary International*.

Rey, J.; Martínez, J.; Mediavilla, R.; Santisteban, J.I.; Castaño, S.; De la Losa, A. Structure and sediment fill obtained from electrical resistivity imaging and groundpenetrating radar: the Holocene of Las Tablas de Daimiel (Southern-Central Spain). *Journal of Applied Geophysics*.

Celis, A.; Mediavilla, R.; Santisteban, J.I.; Castaño, S.; De la Losa, A. La desecación de Las Tablas de Daimiel (1750-1987). Cambios agrarios e impactos medioambientales a partir de la interpretación del registro sedimentario. *Historia Agraria*.

Castaño, S.; De la Losa, A., Mediavilla, R.; Santisteban, J.I.; Martínez-Santos, P. The effect of groundwater overexploitation on water quality in Las Tablas de Daimiel National Park wetland (Central Spain). *European Water*.

Lectures

2015. Invited lecture. *Some considerations about the sources of average temperature*. 6th FluVAlps Workshop: Multi-proxy analysis of environmental changes, geomorphic systems and natural hazards. Universitat de Barcelona, 27/02/2015.

2015. Invited lecture. *El hombre en La Mancha Húmeda*. (Translation: *Man in the Humid La Mancha*). Conferences for the Entrepreneurs and Investors Network of Biosphere Reserve of the Humid La Mancha Region (Villarrubia de los Ojos, Ciudad Real, Spain). 26/02/2015.

2015. Invited lecture. *Cambios climáticos rápidos en Las Tablas de Daimiel durante la época de las motillas*. (Translation: *Rapid Climate Changes in Las Tablas de Daimiel during the motillas period, Bronze Age*). Organized by tablasdedaimiel.com for the World Wetlands Day (Daimiel, Ciudad Real, Spain). 02/02/2015.

2015. Invited lecture. *Las Tablas de Daimiel una historia que va más allá del hombre*. (Translation: *Las Tablas de Daimiel a story beyond mankind*). Organized by the Local Development Agency of Villarrubia de los Ojos for the World Wetlands Day (Villarrubia de los Ojos, Ciudad Real, Spain). 02/02/2015.

2015. Invited lecture. *El agua en las Tablas de Daimiel: desde el presente hacia el pasado*. (Translation: *Water in Las Tablas de Daimiel: from today towards the past*). Organized by the Local Development Agency of Villarrubia de los Ojos for the World Wetlands Day (Villarrubia de los Ojos, Ciudad Real, Spain). 02/02/2015.

2014. Invited lecture. *Las Tablas de Daimiel: water, climate and people*. In the “Integrated Research Training Group, Graduate School”, of the Collaborative Research Centre 806 “Our Way to Europe: Culture-Environment Interaction and Human Mobility in the Late Quaternary” (Univ. Köln, Aachen, Bonn). Köln, 14/07/2014.

Geophysics and mechanical boreholes aiming at sedimentological studies decipher the subbasins geometry and the Quaternary Geological History of the Tablas de Daimiel and surroundings. This picture shows a drill next to a Bronze Age settlement in La Motilla de la Máquina.





The Cigüella River detrital terraces are rare in the National Park Tablas de Daimiel and, consequently, have been quarried for gravel. Actually they are in a very bad shape.

Training activities

Rosa Mediavilla (Spanish Geological Survey) supervises the professional practices of the student Angela Patricia Poveda Corredor (Complutense University of Madrid) about collection of data and planning of a model for groundwater fluxes in Las Tablas de Daimiel National Park. This model will be used for the reconstruction of the surface and groundwaters during the middle and late Holocene after its calibration and validation against instrumental water levels and reconstructed palaeoclimatic series.

Forthcoming events

During 2016 members of the group are going to participate in:

EGU 2016 Session "CL1.24 Climate and environment reconstruction from terrestrial carbonate systems" that will take place in Vienna from 17–22 April 2016. Programme Group: CL – Climate: Past, Present, Future.

24th Biennial Meeting of the American Quaternary Association. Section IV, Quaternary Geology & Geochemistry in the Anthropocene. Santa Fe, New Mexico, USA. June, 28th-July, 2nd.

Granted Projects related to the IGCP

"Holocene Paleo-climate and hydrological reconstruction on the Upper Guadiana Basin (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, which is frequently updated.

IGCP-640: S4SLIDE Significant of Modern and Ancient Submarine Slope Landslides

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Abstract: In 2015 a new IGCP proposal was launched and approved. It represents the continuation of IGCP-585 and the leader Dr. Urgeles has step down but actively contributed to the new proposal. Currently a small group of Spanish participants (6) are known to us, two of them Ph. D. students. Spain has participated in two important meetings this year, the 7th International Symposium on Submarine Mass Movements and their Consequences (New Zealand) and the AGU-Fall meeting (San Francisco) in the S4SLIDE Session: Submarine Landslides and Their Consequences: A Multidisciplinary and Integrative Approach.

Publications and contributions to congresses

Biain, A., León, R., Urgeles, R., Somoza, L., Medialdea, T., Ferrer, M., Gonzalez, F.J. (2016): Onshore and Offshore Geomorphological Features of the El Golfo Debris Avalanche (El Hierro, Canary Islands). In Lamarche, G., Mountjoy, J., Bull, S., Hubble, T., Krastel, S., Lane, E., Micallef, A., Moscardelli, L., Mueller, C., Pecher, I., Woelz, S. (Eds.): Submarine Mass Movement and Their Consequences, Advances in Natural and Technological Hazards Research, 41, Springer, Dordrecht (The Netherlands), pp. 83-92.

Biain, A., León, R., Urgeles, R., Somoza, L., Medialdea, T., Ferrer, M. & Gonzalez, F.J. (2015): Onshore and offshore geomorphological features of the El Golfo debris avalanche (El Hierro, Canary Islands)

Borrell, B., Somoza, L., León, R., Medialdea, T., Gonzalez, F.J. & Gimenez-Moreno, C.J. (2015): GIS catalogue of submarine landslides in the Spanish Continental Shelf: potential and difficulties for susceptibility assessment

Cameselle, A.L., Urgeles, R. (2015): Large-scale margin collapse during Messinian early sealevel drawdown: The SW Valencia Trough, NW Mediterranean. Basin Research, in press

Casas, D., Casalbore, D., Yenes, M., Urgeles, R. (2015): Submarine mass movements around the Iberian Peninsula. The building of continental margins through hazardous processes. Boletín Geológico y Minero, 126(2-3): 257-278.

Horozal, S., Bahk, J.J., Lee, S.H., Urgeles, R., Kim, S.P., Kim, G.Y., Cukur, D., Lee, G.H., Ryu, B.J., Kim, J.H. (2015): Late Neogene–Quaternary submarine mass wasting along the margins of the Ulleung Basin, East Sea: Geomorphologic controls and geohazard potential. Quaternary International, in press.

Hubble, T., Webster, J., Yu, P., Fletcher, M., Voelker, D., Airey, D., Clarke, S., Puga-Bernabeu, A., Mitchell, D., Howard, F., Gallagher, S. & Martin, T. (2015): Submarine landslides and incised canyons of the southeast Queensland continental margin.

Llopart, J., Urgeles, R., Camerlenghi, A., Lucchi, R.G., Rebesco, M., De Mol, B. (2015): Late Quaternary development of the Storfjorden and Kveithola Trough Mouth Fans, northwestern Barents Sea. Quaternary Science Reviews, 129, 68–84.

Papadopoulos, G.A., Gràcia, E., Urgeles, R., Sallares, V., De Martini, P.M., Pantosti, D., González, M., Yalciner, A.C., Mascle, J., Sakellariou, D., Salamon, A., Tinti, S., Karastathis, V., Fokaefs, A., Camerlenghi, A., Novikova, T., Papageorgiou, A. (2014): Historical and pre-historical tsunamis in the Mediterranean and its connected seas: Geological signatures, generation mechanisms and

coastal impacts. *Marine Geology*, 354: 81-109.

Forthcoming events

12th International Symposium on Landslides (Naples, Italy – 12-19 June 2016) / S4SLIDE Session: Comparing and bridging subaerial and subaqueous mass movement processes and concepts.

35th International Geological Congress (Cape Town, South Africa 27 August to 4 September, 2016) / S4SLIDE Session: Subaerial and submarine landslide processes and hazards.

Ph.D. connected to IGCP 640:

Alejandra Lago Cameselle, PhD Thesis, Universitat de Barcelona, Sedimentary processes and resulting continental margin configuration during large-scale sea-level drawdown: The Messinian Salinity Crisis in the Western Mediterranean Sea, 2015.

4. National Committee activities

The Spanish National Committee (SNC) annual business meeting took place in Madrid (Geological Survey of Spain) with Prof. J. I. Valenzuela as Chairman and Dr. Rosa Mediavilla as secretary. The Geological Survey provided the place and all facilities that were needed for the successful meeting; the headquarters building was offered to us for the meeting. Committee's members and invited guests attended the meeting. The following Committee's members-at-large: Santiago Martín Alfageme, M^a del Mar Corral Lledó, Juan I. Santisteban and Javier Lario attended the meeting. The President of the Spanish Commission of Geology and Director of the Geological Survey, Prof. Jorge Civis Llovera, The General IUGS Secretary, Prof. José Pedro Calvo Sorando, The President of the Spanish Paleontological Society, Prof. María José Comas Rengifo, Member-at-large of the Spanish Society of Mineralogy, Prof. Pilar Mata and Mónica Ruiz Bustos representing the AECID, Spanish Agency for International Cooperation and Development.

The Chairman pointed out again his 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. In spite of the observed change in the intentions of the International Board in 2015 no practical effects on the relation between the International Board and the National Committees neither in any of the few agreements reached have been obtained.

The lack of transparency from the Board continues. The need of a close cooperation between the Board and the National Committees keeps as negligible as before. The Spanish National Committee offered cooperation to cope this long-standing problem.

The issue that only some groups only contact 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 Chairman has participated in the Spanish Conference of Deans of Geology and briefly outlined the IGCP. He proposed to visit each University in Spain with Geological studies to lecture on the Program. The idea was well accepted by the Deans.

The Chairman met with the Presidents of the Spanish Geological Society and the Spanish Palaeontological Society to foster cooperation between scientific societies and the IGCP. As a consequence, their scientific meetings are willing to organize special symposia on IGCP matters if enough works are presented.

The Chairman visited the Spanish General Secretary (Federico Palomera Güz) and the Chairwoman for Programs and Scientific Cooperation (Mónica Ruiz Bustos) of the Spanish National Commission for Cooperation with UNESCO (AECID). He introduced himself to the UNESCO responsible, briefly outlined the program and explained the lack of Spanish programs for supporting the actions of the IGCP-Committee.

The SNC give support to the Chairman, Prof. J.I. Valenzuela for attending the 43rd Annual Session of the IGCP Scientific Board in Paris.

The Chairman paid a visit to the Spanish Permanent UNESCO delegate D. Jaime Rodriguez Ponga and explained the actions of the Committee during the past year.

The Chairman assisted to the constitutional meeting of the Geoparks Spanish Committee held in Madrid (AECID-Spanish Agency for International Cooperation and Development)

The Chairman of the SNC gave a supporting letter to the following project: "Magnetic susceptibility and cyclostratigraphy –improvement of Paleozoic time scales" presented by Anne-Christine da Silva.

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

This year a total of five working groups are active in Spain: 587, 596, 618, 619 and 640.

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

During 2015 we transferred the web page from University of Granada to the server in the Geological Survey of Spain. The Secretary of the SNC successfully accomplished this action and now the new link is operative but much previous information still needs to be uploaded: <http://www.igme.es/CNG/subcomisiones/PICG.htm>

The SNC "turned" 40 years old in 2015. On occasion of this "Event" we have started with the organization of a special meeting. As the intended new IGGC program was clear to us, we will organize the 40th Anniversary in one of the Spanish Geoparks, Sierras Subbéticas. Contacts have been made in 2015 and the meeting will take place in April 15th and 16th. First day will be devoted to Plenary Conferences and presentations and the second day to a Fieldtrip in the Geopark. A special volume will be published in one of the Geological Survey of Spain Series.

5. IGCP Meetings held during the year in Spain

- Annual Meeting of the Spanish National Committee, December 17th, Madrid (Geological Survey of Spain)
- Annual Meeting of the Spanish Working Group-IGCP 596 and Special Symposium with 8 contributions 7th-10th October, Baeza.

6. IGCP meetings planned for the next year (2016)

- Annual Meeting of the Spanish National Committee.
- IGCP Special meeting on the occasion of 40th Anniversary of the Spanish National Committee in the Geopark Sierras Subbéticas (April 15th-16th). Actually the 40th anniversary happened last year, but celebrations (including edition of an special book) will take part this year.
- IGCP Special Symposium in Molina de Aragón (September)

• Annual Meeting and Special Symposium of the Spanish Working Groups-IGCP 596 and IGCP-632 during the XXXII Meeting of the Spanish Paleontological Society to be held in September in Molina de Aragón.

7. Forthcoming events in connection with IGCPs

- EGU 2016 Session "CL1.24 Climate and environment reconstruction from terrestrial carbonate systems" that will take place in Vienna from 17–22 April 2016. Programme Group: CL – Climate: Past, Present, Future.
- 60th Scientific Session of the Spanish Geological Society. May 2016, Barcelona, Spain.
- 12th International Symposium on Landslides (Naples, Italy – 12-19 June 2016) / S4SLIDE Session: Comparing and bridging subaerial and subaqueous mass movement processes and concepts.
- 24th Biennial Meeting of the American Quaternary Association. Section IV, Quaternary Geology & Geochemistry in the Anthropocene. Santa Fe, New Mexico, USA. June, 28th-July, 2nd.
- IGCP-596 and IGCP 591 Joint Meeting and Workshops. International Symposium Ghent (Belgium), 6-9 July, 2016.
- 35th International Geological Congress (Cape Town, South Africa 27 August to 4 September, 2016).
- IX Spanish Geological Congress. September 2016, Huelva (Spain)
- XXXII Meeting of the Spanish Paleontological Society, September 2016, Molina de Aragón, Spain.
- 61th Scientific Session of the Spanish Geological Society. November 2016 – Zaragoza, Spain.

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

In spite of the good intentions of the Board, it seems that, for some reasons that are not clear to us, the International Board did not paid any attention to the feed-back that National Committees provided each year and this is a serious limitation for improving communication and hampers the confidence of the National Committees on the International Board.

The President of the Spanish National Committee acknowledges the “good feeling” and intentions regarding further cooperation of the Board with the National Committees. However, it is estrange that again no information on the new projects, their founding, current status, numerical reference, title, web page, coordinators,... was provided. This lack of transparency and effective communication of the Board is a major handicap towards an active cooperation and fluid transference of ideas and information that is needed in improving the program.

By surveying the web page of the Program, the President of the Spanish National Committee became aware of that some projects could be of interest to potential Spanish participants, and in some projects Spanish scientists were involved. After contacting some of them, the President realized that they didn't know the existence of a National Committee, neither the need (and possibility) of forming a National Working Group.

A suggestion to improve this situation has already been proposed and it is easy to apply and survey. By approving a new project, the Board should inform the leaders the need to contact and inform the respective National Committees of the countries involved in the project. At the same time, the leaders should inform potential participants to contact their respective National Committees. At the end of the year, these actions shall form part of the evaluation list and the (economic) renewal support be affected in case these simple actions have not been followed.

After contacting with some previous participants in IGCP projects, even former leaders, we realized that many workers don't see the need of creating a National Working Group that form

part of the National Committee, and they think there is no need to create such working groups. Obviously, National Working Groups are an important part of the National Committees and therefore, I suggest that International Board and National Committees shall work together in promoting the constitution of such groups.

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 the funding be fined, the following year. As you can imagine, this greatly affect the annual reports that continuously will be incomplete. Therefore, the IGCP is funding and supporting actions that are out of control because the responsible do not care to report them to the National Committees.

An additional problem is the lack of control (which is impossible, of course) on the information provided by the different IGCP-projects web pages. Recently, I learn about a long list of Spanish participants in an IGCP project. The National Committee never was informed of such huge amount of participants, nobody contacted the National Committee to inform or report on this project, and the last by no least surprising fact is that people who is listed as participant never was contacted neither informed of his/her wish (first) or enrollment in such project. We have to find ways of dealing with effective communication and transference of ideas and proposals between National Committees and International Board. The lack of such adequate National Committee-International Board correspondence creates a feeling of desperation and frustration that does not benefit the needed cooperation. We hope that the International Board acknowledges this situation and seeks for a joint solution. I want to remember here the Spanish National Committee loyalty to the Program; the National Committee has always supported the IGCP by participating, sending reports and making comments for improving collaboration and we will continue this way.

I want also comment on the role of the National UNESCO Delegations and the apparent lack of real interest in the Program. I'm not convince they believe or understand that IGCP is in connection with the aims and goals of UNESCO, or at best, we have not been able to explain these officials our contribution to improve the world and serve the society (as our *motto* states). I think, this is another aspect National Committees and International Board shall address soon and I, personally, offer my time and energy to make progress in this matter.

I have the impression that some UNESCO Delegations and National Agencies for Cooperation with UNESCO see IGCP-National Committees only as "one mark more in the check list of Committees for the annual reports", but they don't care much about the particularities of this Program and, consequently, they don't see the need of effectively supporting the program neither the demand of exploring new ways of opening a special funding program to which National Committees can apply and submit proposals. This is another issue that National Committees and International Board can work together for improving the visibility of the program and augmenting financial sources.

As a last suggestion, I believe that having a special session with enough time for National Committees to exchange ideas, experiences, intentions and difficulties will help to strength relations between committees and foster further inter-committees cooperation.

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

The Geological Survey of Spain partly supported the activities of the Spanish National Committee (2,314 €).

The supported activities were:

- Participation of the President of the Spanish National Committee in the annual meeting of the IGCP Scientific Board, Paris, February 25th-26st, 2015.
- Trips of the President to pay visits to authorities and Scientific representatives outlined above in point 4: Visit to the Spanish National Commission for Cooperation with UNESCO (AECID), participation in the Spanish Conference of Deans of Geology, visit to the President of the Spanish Geological Society, participation in the constitutional meeting of the Geoparks Spanish Committee
- Annual Meeting of the IGCP Spanish Committee, held at Madrid (Spanish Geological Survey) December 17th 2015. Eleven persons attended the meeting.
- Participation of a Spanish Committee representative and a post-doc student in the IGCP-596 Symposium, in the XXXI Annual Meeting of the Spanish Paleontological Society, Baeza, 7-10 October, 2015.
- The University of Valencia (Dpto. de Geología) provided general services that allowed to the Chairman 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 3 years (2012-2014).

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 National President and Spanish Leader of the SWG-IGCP-596 in the International Commission on Stratigraphy, Strati2015 Meeting, Graz (Austria); July 2015.
- Participation of the National President and Spanish Secretary of the SWG-IGCP-596 in the International Meeting in Brussels (Belgium), September 2015.
- Participation of the National President and Spanish Leader of the SWG-IGCP-596 in the 127 Annual Meeting of the Geological Society of America, Baltimore (Maryland) October, 2015.
- Fieldtrip training for international students in the Devonian of the Spanish Pyrenees.

The Chinese Academy of Sciences (Nanjing Institute of Geology and Palaeontology) supported the training at University of Valencia (Spain) of one Chinese Ph. D. Student from October 2015.

The DAAD WELT-RISE programm supported the training at University of Valencia (Spain) of one German Graduate Student for two months (September and October)

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"

Valencia, February 19th, 2016



José Ignacio Valenzuela Ríos
President, Spanish National Committee, IGCP