International Geoscience Programme

I G C P

SPANISH NATIONAL COMMITTEE

Annual Report for 2012

February, 2013

1. Prof. Dr. Marcos A. Lamolda (Chairman)

Departamento de Estratigrafía y Paleontología

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Dr. José Ignacio Valenzuela Ríos (Secretary)

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- **2.** Dr^a. D. Alonso and Dr. C. Martínez (Instituto Geológico y Minero de España-IGME); Dr^a. R. Mediavilla (CEICAG); Dr. J. A. Gámez (587); Dr. F. Javier Hernández (619); Dr. Javier Lario (588); Dr. Pablo G. Silva (567); Dr. R. Urgeles (585); Dr. J.I. Valenzuela (596).
- 3. IGCP projects in which Spanish Working Groups have participated
 - b) Project with Spaniard project co-leader

Project no. 585: 'E-MARSHAL'

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Spaniard co-leader: Dr. Roger Urgeles

http://www.igcp585.org/

Summary:

During 2012 we have set up online the lecture notes from the ECORD summer school (see http://www.igcp585.org/education).

We have continued to enlarge the social base of the project. Current participation in IGCP-585 has almost multiplied by 4 since the project started, and the project has now 123 active participants of 29 different countries, spanning 4 continents.

IGCP-585 fostered submarine landslide and scientific drilling research. In this regard, most notable is the drilling of Expedition 340 on "Lesser Antilles Volcanic Landslides", where members of the IGCP585 community have been actively participating (http://www.iodp.org/).

Submission of the IODP pre-proposal 811-pre (The impact of recent warming and pore pressure rebound on slope instability)

Submission of the IODP Ancillary Propject Letter 809-APL (A Holocene record of submarine landslides, seismic shaking, and climate change: Port Valdez, Alaska) for potential drilling in 2013

Workshop on scientific drilling to assess geohazards from submarine landslides in the Ulleung Basin, East Sea with KIGAM and KORDI in South Korea to review the scientific issues regarding submarine landslides and to seek possible targets in the Ulleung Basin.

Meeting organization

During 2012 numerous activities were organized in the frame of IGCP-585. Four of them are listed below.

General Assembly of the European Geosciences Union, April 2012, Viena, Austria. Session NH3.9 "Submarine Landslides: Mechanisms, Processes and their Sedimentary Record"

17 abstracts from 11 different countries (China, Greece, Italy, Japan, Norway, Russia, Sweden, Switzerland, Taiwan, UK, USA); ~ 50 people attended the oral session. All abstracts are published online at the EGU website at: http://meetingorganizer.copernicus.org/EGU2012/session/9264

Geological Association of Canada Annual Meeting, May 2012, St. John's, NL, Canada, Special Session on *Marine Geoscience for Geohazard Assessment* Twelve abstracts/presentations published online http://www.stjohns2012.ca/gac/wp-content/uploads/2012/05/StJohns2012_GAC-MAC_Abstracts.pdf

11th Int. and 2nd N. American Symp. on Landslides (ISL/NASL), June 2012, Banff AL, Canada.Session 2-2D on "Submarine and Coastal landslides".

Seven papers were presented at the session, organized by project members Jacques Locat, Laval University, and David Mosher, Geological Survey of Canada. The session was attended by ~50 people from the 300 congress participants.

34th International Geological Congress, August 2012, Brisbane, Australia. Session on "Subaerial and submarine landslide hazards [IGCP585]"

41 abstracts from 20 different countries (Australia, Canada, China, France, Germany, Italy, Iran, Japan, Korea, Nepal, New Zealand, Norway, Philippines, Portugal, Sri Lanka, Switzerland, Taiwan, Uzbekistan, USA and Vietnam) More than 100 people attended the oral session over the two days with lively discussions in front of the posters.



Students and postdocs participation at the ECORD (European Consortium on Ocean Research Drilling) summer school on "Submarine Landslides, Earthquakes and Tsunamis".

Educational, training of capacity building activities

We organized (M. Strasser main organizer) the ECORD (European Consortium on Ocean Research Drilling) summer school on "Submarine Landslides, Earthquakes and Tsunamis", at the MARUM - Center for Marine Environmental Sciences and the IODP Bremen Core Repository, University of Bremen, Germany. A total of 31 PhD students and young post-docs from several countries (Australia, Belgium, Canada, France, Germany, Ireland, Israel, Italy, Norway, Portugal, Spain, Switzerland, United Kingdom) attended the course. The two-week course combined lectures and interactive discussions with practical exercises.

Publications

Publications that directly resulted from IGCP585 networking activities include:

Our contribution to the **40**th **anniversary book of IGCP**:

Locat, J. et al. (2012): IGCP511: Submarine Mass Movements and Their Consequences (2005-2009). In Derbyshire E. (Ed.) Tales Set in Stone – 40 Years of the International Geoscience Programme (IGCP), UNESCO, Paris (France), pp. 62-66. ISBN 978-92-3-001036-2

The 4th edition of the 'Submarine Mass Movements and Their Consequences' book containing 64 peer-reviewed manuscripts by symposium presenters:

Yamada, Y. et al. (Eds.) (2012): Submarine Mass Movements and Their Consequences, Adv. Natural Technol. Hazards Res., 31, Springer, Dordrecht (The Netherlands), 769 pp, ISBN 978-94-007-2161-6. Yamada, Y., Kawamura, K., Ikehara, K., Ogawa, Y., Urgeles, R., Mosher, D., Chaytor, J. and Strasser M. (Eds.) (2012): Submarine Mass Movement and Their Consequences, Advances in Natural and Technological Hazards Research, 31, Springer, Dordrecht (The Netherlands), 769 pp, ISBN 978-94-007-2161-6.

The **book arising from the session that we held at the 2nd WLF**, has been published during 2013: *Margottini, C. et al.* (Eds.), 2013: Landslide Science and Practice, Volume 5: Complex Environment, Springer-Verlag, Berlin (Germany), 354 pp. ISBN 978-3-642-31426-1

<u>Project no. 619: "Contourites: geological record of ocean-driven paleoclimate, accomplice of submarine landslides and reservoir of marine geo-resources"</u>

Dr. Francisco Javier Hernández-Molina Depto. de Geociencias Marinas Facultad de Ciencias del Mar, Univ. Vigo 36200 Vigo email: fvilas@uvigo.es

IGCP 619 home: http://www.contourites.org/igcp/

Summary:

The success of the first Deep-Water Circulation congress in Baiona, Spain (16-18 June 2010, http://www.facultadeccdomar.es/contourites/) has led to the start of a new International Geoscience Programme on contourites: IGPC 619 "Contourites: processes & products". Contourites are sediments deposited or significantly affected by bottom currents near continental margins. Although unknown by the public, contourite deposits are observed all over the Earth's continental margin and are of importance in a wide range of processes. IGPC 619 "Contourites: processes & products" will improve our understanding of:

- *Geohazards*: Contourites may lie at the origin of major slope instabilities (such as the Storegga slide), creating Tsunami dangers. Their presence may prove to be critical if the hydrocarbon industry moves to deeper slopes.
- Earth resources: Contourites occur in nearly all-complex environments and may act a source, a reservoir or cap rock for hydrocarbon resources. Also the role of deep-water circulation on the growth and distribution of ferro-manganese nodules is still under debate.
- *Global Change*: contouritic deposits are useful recorders of past climate changes and assist in understanding the modulating role of the deep ocean in our climate system.

Deepwater ecosystems: deep-water ecosystems (cold-water corals) are highly influenced by deepwater circulation, which deposits contourites. Any change in circulation may affect the "health status" of these reefs, which are also nurseries for our future fish stocks.



Isis ROV photograph from the Pacific margin of the Antartic Peninsula taken along the axis of the channel north of the proximal part of Drift 5, at about 3000 m depth.

The programme will run from 2012 to 2016 and is funded by the International Geoscience Programme (IGCP) of UNESCO. During 2012 the Spanish working group related to the IGCP Project 619 was established. The first meeting was the 18th July in Oviedo, when interested researchers from five Spanish institutions joined for this Project. After July the efforts have been dedicated to involve more interested researchers. So far in the IGCP Project 619 "Contourites: processes & products" will unite about 134 scientists from 23 nations among which many developing and newly developed nations, and Spain constitute one of the countries with more people involved in the Project with about 35 researches. Another important task during 2012 has been the initiation and maintain the Project Web Page (http://www.contourites.org/igcp/). In addition we actively participated in constructing the program and in the advisory structure of the second Deep-Water Circulation congress in Ghent, Belgium (May 2014), and a formal link has been established with project IGCP-585.

Meeting organization

During 2012 some activities were organized in the frame of IGCP-619. Three of them are listed below.

• 1st Meeting of the Spanish Working Group of IGCP Project 619: Contourites: geological record of ocean-driven paleoclimate, accomplice of submarine landslides and reservoir of marine geo-resources". This meeting was the 18th of July, 2012 in Oviedo (Spain).

• Symposium: Depossitional Contourite Systems: oceanographic, palaeoceanographic, sedimentary, slope unstabilities and resorces exploration implications. It was organised during the VIII Congreso Geológico de España, from 16 to 18 of July, 2012 in Oviedo (Spain). 17 oral presentations from 6 countries (Argentine; Belgium; Brazil; Canada; Spain and United Kingdom) were presented with important discussions. Also, an important coordination work was done for future meetings.

In addition one international workshop held at Hull, England, and a Short Course, held at Brisbane (Australia), were organised by project members.

Publications and meeting contributions

In total 33 contributions by members of the Spanish Working Group of the Project.

c) Projects with active working groups

Project no. 567: 'Earthquake Archaeology'

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IGCP 567 home: http://ees.duleuven.be/igcp567/

Abstract:

During the year 2012 part of the activities of the IGCP-567 Spanish Working Group (SPWG) were focused on the preparation, organization and celebration of the 3rd INQUA-IGCP 567 International workshop on Earthquake Geology, Paleoseismology and Archaeololgy. Dealing with the centenary of the 1912 Acambay Earthquake, the workshop will be held at the Mexican city of Morelia with the facilities of the Michoacan University. The workshop was thematic and included invited speakers, oral presentations, discussions and posters, as well as 2-day field trip in the active Transmexican Volcanic Belt and trip in Morelia city to observe arhaeoseismological evidences in the cultural heritage, associated to historical earthquakes. This meeting sponsored by INQUA the IGCP-567 worked as the Annual Meeting of the Project. The Workshop was organized by Victor Hugo Garduño-Monroy (Michoacan University, Mexico); Miguel Ángel Rodríguez Pascua (*Instituto Geológico y Mniero de España*, IGME, Spain); Pablo G. Silva (Salamanca University, Spain). Raúl Pérez López (IGME) and Jorge Giner (UAM), members of the SPWG are also involved in the organizing committee of the meeting. Another activity was the preparation of the 4th INQUA-IGCP 567 International workshop on Paleoseismology and Archaeoseismology that it will took place in the city of Aachen (Germany).

Meeting organization

The Spanish working Group has co-organized:



- 3rd INQUA-IGCP 567 International workshop on Earthquake Geology, Paleoseismology and Archaeseismo-

logy, in Morelia (Mexico). November 2012. The Spanish group has participated in the direction, organization committee, scientific committee, and in the elaboration of the field trips.

The workshop was attended by 72 participants of different countries such as Italy, Germany, Spain, Sweden, Japan, Korea, Mexico, Argentina, Colombia, Costa Rica and Venezuela. Invited conferences were in charge of Franck Audemard (INQUA Vicepresident); Alessandro Michetti (TERPRO President); Carlos Costa (IAEA Expert); Klaus Reicherter (IGCP-567 Steering Committee) and Gerardo Suarez (UNAM; Mexico Seismology).

A specific web page was designed for the Morelia Workshop: This web-page has been used for the workshop organization, registration and information. The web page has been maintained and conveniently updated by V.H. Garduño-Monroy (UMSNH, Mexico).

http://www.acambay1912.org

Seven participants in the meeting from the Spanish Working Group. Nine contributions to the meeting and two key notes.



Field trip to the active faults of the Patzcuaro Lake (Michoacan, Mexico).

Publications and contributions to congresses



The Spanish working Group has co-edited a monography with fifteen contributions presented at the 3rd INQUA-IGCP 567 International Workshop.

Volume editors: Pérez-López, R.; Silva, P.G.; Rodríguez-Pascua, M.A.; Garduño, V.H.; Suarez, G. and Reicherter, K.

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Special Volume on the Lorca Mw 5.2 Earthquake (Spain). Bol. Geológico y Minero. 123 (4). 411 - 603. November 2012. Geological Survey of Spain (IGME). http://www.igme.es/internet/boletin/ultimonum.htm

Guest Editors: M.A. Rodríguez-Pascua, R. Pérez-López, C. Cirujano (in Spanish). This volume collect 12 papers dealing with Quaternary tectonics, Geology, Geomorphology, Seismological, paleoseismological and archaeoseismological data related with the Mw 5.2 event occurred on 11th May

2011 in Southeast Spain.



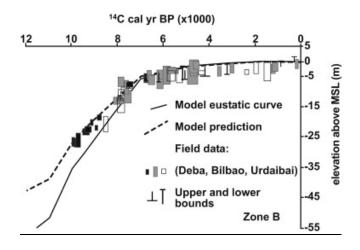
Special Volume on Active Faults in Spain. Journal of Iberian Geology, 38 (1), 2012. June 2012. UCM-CSIC, Madrid. Spain. http://revistas.ucm.es/index.php/JIGE/issue/view/2254/showToc Guest Editors: J.J. Martínez-Díaz, E. Masana, M.A. Rodríguez-Pascua. This volume collects 14 papers dealing with Quaternary tectonics, active tectonics, and paleoseismological research of active fault systems in the Iberian Peninsula. Selected contributions from the IBERFAULT Meeting, October 2010, Guadalajara (Spain).

Project no. 588: 'Preparing for Coastal Change'

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IGCP 588 home: http://coastal-change.org/



A-plot of Holocene sea-level index points from the Bilbao, Urdaibai and Deba estuaries (Zone B in Fig. 1), showing calibrated age against depth relative to present mean sea level. Grey boxes represent both vertical and age errors. Dashed line represents model predictions based on the following values: lithospheric thickness (71 km), upper mantle viscosity (0.3 × 10²¹ Pa s) and lower mantle viscosity (50 × 10²¹ Pa s). Black line represents model eustatic curve for the last 12,000 yr. (Leoori et al., 2012, Quaternary Science Reviews)

Abstracts:

Changes in relative sea level, coastal evolution and extreme events such as storms and tsunami 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 project started in 2010 and 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..

Activities in 2012

3rd Joint International Conference of IGCP 588: "Preparing for Coastal Change" and INQUA 1001: "Late Quaternary records of coastal evolution". Germany, September 2012. Three papers have been published by members of the Spanish working group.

Project no. 596: 'Climatic Change and Biodiversity patterns in the Mid-Palaeozoic'

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Secretary: Jau-Chyn Liao e-mail: jau.liao@uv.es

IGCP 596 home: http://www.senckenberg.de/root/index.php?page_id=14651

Summary:

The Spanish Working Group (SWG) has been very active during 2012, participating in two international meetings: 1) the Brisbane Symposium, within the frame of the 34th International Geological Congress with three talks and 2) the Centenary Meeting of the German Paleontological Society Meeting with two talks and one poster. Also the leader participated in the Workshop on Palaeobilogy database scheduled in Berlin and he and the secretary also took part in the Annual Business Meeting in Berlin. The SWG has offered scientific support and field guidance for the celebration of the next IGCP-SDS joint International meeting to be held in Morocco in 2013. Besides, the SWG has organized a monographic IGCP-596 Symposium in connection with the XXVIII Annual Meeting of the Spanish Paleontological Society held in

Valencia and Sóller (Mallorca) with nine contributions presented (seven oral and two posters). On this occasion, the SWG celebrated its annual meeting. Both the Secretary (J.-C. Liao) and the Leader (J.I. Valenzuela-Ríos) were involved in the organisation of the Spanish Paleontological Meeting and in the editorial work that leaded to the publication of an special Conference Volume that can be free downloaded under the following address. http://www.uv.es/28jornadassep/ The SWG has also taken part in the X Meeting of Young Palaeontologists of Spain, held in Sot de Chera (Valencia).

During this year the SWG has published 14 scientific papers, 12 Proceedings, 5 abstracts, edited 1 book and organised a major conference.

Also a Ph. D. and a Master Thesis have been finished within the frame of the project, and a new international project strongly related to the IGCP-596 has been submitted and approved.

An international workshop for graduate students (Master and Ph. D. students) on Bio- and Chronostratigraphy was organised in the University of Valencia with participants of three countries (Spain, Germany and Colombia). Also, within the frame of the project and sponsored by the DAAD Worldwide RiISE Internship Programme a German student developed an IGCP-related short project.

Partial support for attending and organizing the different activities outlined above has been obtained by the Spanish IGCP National Committee, by the University of Valencia and mainly by the Spanish Ministry of Economy and Competitivity (MINECO), Grant CGL2011-24775.

Next year the SWG will organize a Special Symposium in connection with the XXIX Annual Meeting of the Spanish Paleontological Society that will take place in Córdoba and it also though to organise a filed-trip to Palaeozoic outcrops of the nearby outcrops. Besides, it is the intention to participate, at least, in the Joint SDS-IGCP 596 to be hold in Morocco and likely in the South Asia meeting (Vietnam, Thailand, Indonesia).

Finally, one more female researcher has joint the SWG this year.



Recifal constructions in the northern coast of Majorca

Meeting organization and participation

The Spanish Working Group (SWG) has organized a Special IGCP Symposium within the frame of the XXVIII Spanish Palaeontological Meeting. Within the Symposium nine works were presented and they were published in the special book of the Meeting:

Organisers: José Ignacio Valenzuela Ríos and Jau-Chyn Liao.

Date and location: 4-6 octobre 2012, Puerto de Sóller (Majorca), Spain.

Number of participants: 85.

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 organize a special symposium within the XXIX Annual Meeting of the Spanish Paleontological Society to be hold in Córdoba.

Publications and contributions to congresses

The working group has published 15 papers in peer reviewed journal. An abstract book has been edited, and 17 contribution to national and international congresses.

PhD Thesis in the working group:

Navas-Parejo, P. 2012. Paleozoic Stratigraphy and Palaeogeography of the Betic Cordillera and other Western Mediterranean related domains (Calabria-Peritani Terrane). Universidad de Granada.

Master thesis

Calvo Sanchis, H. (2012): Sistemática y Bioestratigrafía de conodontos del Lochkoviense medio (Devónico Inferior) del Pirineo Central Español. University of Valencia.

<u>Post-Graduate Workshop</u>: Biostratigraphy and Chronostratigraphy: Basic Concepts and Devonian applications. July 25-26; University of Valencia. Organiser: José Ignacio Valenzuela-Ríos. Number of participants: 11 (9 from Spain; 1 from Colombia and 1 from Germany). Most of them (9) Master or Ph. D. students.

<u>Internship</u>: 3 months internship within the DAAD programme RISE Worldwide (July 1st-September 23). Reference and Project Title: ES-ES1725 Evolution and ecological distribution of Lower Devonian marine life. Project leader: José Ignacio Valenzuela-Ríos

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 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

Brief description of selected activities

aiming at 1) internationalization of the Spanish Scientific achievements; 2) coordinating and promoting joint activities within the SGW and 3) supporting young initiatives.

1) Internationalization of the Spanish Scientific achievements

This year has been a special one to show the progress of the Spanish National Science, and especially of the IGCP National Committees, to the Global Scientific Geological community as the 34th International Geological Congress took place in Brisbane, Australia (5th-10th of August). Within the International Congress, a special IGCP-596 symposium (Symposium 3.8 Climate change and biodiversity patterns in the Mid Palaeozoic) was organized jointly with the International Subcommission on Devonian Stratigraphy and the IGCP-580. The SWG presented three works dealing with different aspects of Lower and Middle Devonian conodont biodiversity, evolutionary processes and global chronostratigraphical implications: 1) Liao, J.-C. & Valenzuela-Ríos, J. I.): New data on Middle to Upper Devonian conodont faunas from Renanué (Aragonian Pyrenees, Spain); 2) Valenzuela-Ríos, J. I.: The Lochkovian conodont biodiversity pattern and evolutionary cycle; and 3) Valenzuela-Ríos, J. I.: Evolutionary patterns of Ancyrodelloides in the Spanish central Pyrenees (Middle Lochkovian, Lower Devonian) and its global cronoestratigraphical potential. (Complete citations are shown above, under the Proceedings and Book Chapters chapter). The quality of the Spanish contributions can be observed as the leader of the SWG was offered to be a keynote-speaker (contribution 3) and the other two contributions were accepted as a oral talks, one given by the leader and the other by the secretary of the SWG (see photos).

Another relevant event was the celebration of the Centenary Meeting of the German Palaeontological Society in Berlin (24th-29th of September, Museum für Naturkunde). On this occasion a big international meeting was launched and within it also a special IGCP-596 symposium (number 12) a workshop on the Palaeobiology database and the annual business meeting were organised. The Symposium number 12 Climatic Change and Biodiversitty Patterns in the Mid-Paleozoic (IGCP-596) was focused this time on Devonian and a Keynote presentation by Prof. J. Marshall, University of Southampton, on Land plants and the Late Devonian extinction events was followed by seven oral presentations (20 minutes each) on different Devonian fossils groups (conodonts, brachiopods, echinoderms), on relationships between evolution of communities and climatic changes, reefs developments, facies evolution. Also some works included in this symposium were presented as posters. The meeting was attended by the leader and the secretary of the SWG and several members of the SWG presented the following three works: 1) Liao, J.-C. & Valenzuela-Ríos, J. I.: Givetian conodont biodiversity patterns (Middle Devonian) in the Spanish Central Pyrenees; 2) Nose, M., Vodrázka, R., Fernández, L. P., Mendez-Bedía, I., Fernández-Martínez, E. & Soto, F.: First record of chambered hexactinellid sponges from the Palaeozoic and 3) Valenzuela-Ríos, J. I.: Biodiversity and evolution of Lochkovian and Pragian (Lower Devonian) Icriodontidae (Conodonta) from Northern Spain, a referent for global studies; (full references above in the abstracts chapter). Works 1 and 3 were given as oral presentations and 2 as a poster.

In the annual business meeting a review, including Spanish achievements, of 2012 activities was presented and the forthcoming plans for 2013 were discussed, including two international meetings (Morocco and Southeast Asia). Also information on the possibilities of a fieldwork meeting in Mongolia was presented and discussed.

2) Coordinating and promoting joint activities within the SGW

In October 2012 and in conjunction with the XXVIII meeting of the Spanish Palaeontological Society, a special Symposium on Palaeontology-related IGCP projects (587 and 596) was organised in Puerto de Sóller (Majorca). This Symposium was supported by the Spanish National Committee and organised by the National Secretary (José Ignacio Valenzuela Ríos). In this occasion, the leader of the SWG IGCP-587 (José Antonio Gámez Vintaned) and the Secretary of the SWG IGCP-596 (Jau-Chyn Liao) were also involved in the organization.

Nine scientific contributions were scheduled in two days (October 4-5) and presented as oral (7) and poster (2) in the nice setting of the Sea Museum in Puerto de Sóller. The IGCP-596-SWG annual business meeting took place after the oral communications (October 4th). In this business meeting the Minutes of the 2011 meeting was approved, the proposals on next activities, specially

those connected with the international IGCP-596 guidelines, and the role of the SWG were discussed and the key international issues were presented. It was planned the organization of the next Scientific sessions and the annual Business meeting in conjunction with the next XXIX Meeting of the Spanish Palaeontological Society to be hold in Córdoba (Spain).

The contributions were published as extended abstracts in a special publication of the Symposium; they were grouped in a special chapter devoted to the IGCP and can be free downloaded in the following address (pages 279-318): http://www.uv.es/28jornadassep/

The contributions deal mainly with biostratigraphy, biodiversity, taxonomy and palaeoecology of Devonian and Carboniferous conodonts, brachiopods, fish, corals and ostracods.

Finally a joint fieldtrip to examine an example of reef complex evolution was scheduled in the north Coast of Majorca Island (see photos).

3) Supporting Young Initiatives

One important task of the IGCP-projects is to bring together young and senior scientists. In this respect, the SWG-IGCP-596 has participated in the X Meeting of Young Palaeontologists (Sot de Chera, Valencia) with four contributions and one of the Young members of the SWG has played an important role in organization and editorial matters. This year the motto of the Meeting was devoted to Paleodiversity and Paleoecology of Iberian Ecosystems.

- **4.** National Committee activities, including summaries of research meetings, symposia, workshops, etc. held under the aegis of the Committee, and assistance (financial or in kind) extended to national project participants.
- 5. IGCP meetings held during the year in Spain
- **6.** IGCP meetings planned for the following year
- **8**. Forthcoming events available in connection with the Programme
- 9. Suggestions relating to the conduct and improvement of the Programme
- **10**. Finantial support received for the activities of this National Committee, and given to IGCP projects and their activities

The University of Granada (Depto. de Estratigrafía y Paleontología), provides general services what allowed to this Chairman to accomply his duty appropriately.

Most of the activities related to Spanish Working Groups have been financed directly by research projects of the participants, granted by the Spanish government, Regional governments, and other institutions.

Granada, February 10th, 2013

Marcos A. Lamolda Chairman, Spanish National Committee, IGCP