

PEDRO MARTINEZ DURAN



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Maîtrise Science de la Terre

M. Phil Carbonate Sedimentology and Sequential Stratigraphy

M.Sc. Petroleum Geoscience (Basin Evolution and Dynamics)

Senior Petroleum Geologist & GIS Analyst Expert

I obtained a B.Sc. in Geology at the University of Zaragoza (Spain) in 1993 studying the last two years at Burgundy University (France) and University of Aberdeen. Later I gained an M.Phil. in carbonate sedimentology and sequence stratigraphy at the University of Zaragoza, publishing several papers.

For some years, I pursued a career as an exploration mining geologist (working in Chile, Argentina, Bolivia, USA, Turkey, Portugal, France, and Italy). The MBA, and the ESIC master's in marketing and Sales brought me to several management roles for almost 8 years as managing director in three positions. Finally, this career in management was completed with the IESE PDG in 2007. In 2010 I moved back geology becoming a petroleum geologist after completing the M.Sc. in Petroleum Geoscience at Royal Holloway in 2011.

For 14 years exploration petroleum geologist and seismic interpreter working at CGG. The role was focused on studies related to Reservoir Geology, Carbon Capture and H2 Storage involved in the seismic interpretation of 3D and 2D regional scale surveys carrying out the full structural analysis, seismic interpretation of the pre and syn-rift packages and salt basins in North and West Africa, North Sea, Gulf of Mexico, NZ, Australia as well as in several blocks' assessment in Asia, and complex unitisation oil fields process in Algeria and Tunisia.

In the last few years, I completed internal trainings in geographical information techniques, especially with Remote Sensing datasets using ArcGIS Pro, QGIS and Google Earth Engine coding in JavaScript coupled with SQL, Python, Java and JavaScript training to tackle with complex geographical datasets to carry out any sort of analytical approaches to display in WebGIS apps.

This wide-ranging international expertise has given abroad personal and working skills in any environment such as critical thinking, problem-solving, collaborative skills, strong emotional intelligence, cognitive flexibility, and decision-making focused on customer service and negotiation skills.

Areas of Expertise

Regional and Basin Geology
Advanced Structural Geology
Advanced Geological & Structural Seismic Interpretation
Geographical Information System expert
Databases management
SQL, Python, Java and JavaScript coding
Full Stack WebGIS apps
Basin Analysis and Petroleum Geology and Exploration
Slick and seepage seismic correlation
Project and cost management
International expertise with multicultural environments

Education

(Click on logos to go to each institution)

12/2024-07/2025. Full Stack Web Apps Developer Professional certificate. CIFO La Violeta (Barcelona, Spain)

01/2021-2023. MSc. Geographical Information Science (2 years, full-time, 120 ECTS credits). Department of Physical Geography and Ecosystem Science, Lund University (Sweden) joint programme with University of Twente (Netherlands). Internet-based distance learning programme focused in analyse and model spatial phenomena, natural resources, using GIS (Geographical Information Systems) and remote sensing.



04/2020-05/2020. CCSx: Carbon Capture and Storage. The University of Edinburgh



THE UNIVERSITY
of EDINBURGH

05/2015. An Introduction to upstream Petroleum Economics and Risk Analysis. CGG University. (3 days) Crawley. UK.

03/2015-05/2015. Reservoir Geomechanics. Stanford University. Online course by Dr. Mark Zoback.



Stanford
University

7/2014. IHS Kingdom Software. Seismic Interpretation Course by IHS (London)

05/2014-10/2014. Management Excellence Programme. CGG University. (20 days) North Wales. United Kingdom.

London.09/2010-09/2011. MSc. Petroleum Geoscience (Basin Evolution and Dynamics). Royal Holloway, University of London. Awarded a full scholarship.". Project mark: Distinction. Strong abilities in seismic, well log interpretation and Basin Analysis. Thesis of M.Sc: "*The Tectono-sedimentary evolution of the post-rift sequence of the Northern sub-basin (Senegal Basin): implications for petroleum systems.*"



04/2007-12/2007. General Management Program. I.E.S.E. BUSINESS SCHOOL. Spain.



09/2001-07/2002. Master Marketing&Sales Management. ESIC MARKETING SCHOOL. Spain.



10/2000-11/2001. Master in Business Administration. Executive MBA. European Business School of Aragon. Spain.

1997. Master of Philosophy. "Sequence Stratigraphy and Sedimentology of the Upper Cretaceous (Cenomanian-Turonian) of the Central Iberian Range. Basin Analysis". University of Zaragoza.



Departamento de
Ciencias de la Tierra
Universidad Zaragoza

11/1998. Analisis y diagnóstico Ambiental para la planificación y gestión. (Buenos Aires, Argentina). VI Congreso Nacional de Geología Económica.

05/1997. Curso de Impacto Ambiental en la minería y técnicas de restauración (5 días). Ilustre Colegio Oficial de Geólogos.

09/1997. Evaluación y corrección de impactos ambientales en minería (5 días). Escuela Técnica Superior de Ingenieros de Minas (Puno, Perú)

09/1992-06/1993. Aberdeen University. 5th year of BSc. in Geology. UK.
(Spanish BSc. in Geology is a 5-year programme).



09/1991-07/1992. University of Burgundy. 4th year BSc. in Geology. "Maîtrise Science de la Terre". France.



10/1988-07/1991. University of Zaragoza. First three years of BSc. in Geology. Spain.



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Professional Experience

•05/2020-03/2024. CGG UK Services. **Senior Reservoir Geologist and Seismic Interpreter**. Reservoir Science Department. This role implied detailed seismic interpretation to extract structural maps, faults and fractures using several software (IHS Kingdom, Insight Earth, Petrel and PaleoScan). Seismic attributes techniques are applied to unveil geological features unseen or below seismic resolution. These tasks are focused to reservoir evaluation including unitization oil field processes, personal competent reports (PCR), assessment reserves, Carbon Capture and Storage (CCS) and H2 geological knowledge development. Another important task was geographic homogenisation by means of checking geographic coordinates of vintage data, coordinate transformations and data merging to create asset, structural, geological and reservoir accurate mapping for reporting using ArcGIS Pro, or QGIS coupled with remote sensing data extraction using the cloud-based geospatial analysis platform Google Earth Engine (API JavaScript) to visualize and analyse satellite images.

Regarding CCUS projects I started to be involved to Carbon Capture projects in 2020 when I did undertake the Carbon Capture and Storage course by the University of Edinburgh. Last year, I was involved as the principal seismic interpreter of the Carbon Storage Gulf of Mexico Study (Eastern phase) project. The latest projects in CCUS are focused on Malaysia where CGG was asked by a consortium of several companies to make a screening & selection study in Malaysia. From this project we identified two interesting areas: the Balingian and South Central Luconia Basins. In both Malaysian basins as the principal seismic interpreter, I (and supervised others) did the full seismic interpretation (faults, horizons, attributes) to unveil the most optimal geological sites for capture storage. I closely worked with sedimentologists, petrophysicists and geomodellers to build up static models to be upgraded to dynamic models to test storage suitability.

•09/2012-04/2020. CGG UK Services. **Senior Petroleum Geologist and Seismic Interpreter**. Exploration Department. The role implied to undertake the tectono-sedimentary basin evolution studies employing seismic interpretations (Petrel and Kingdom SMT), regional geological mapping, generation of detailed palaeogeographic, facies, isopach, structural cross-sections, net pay and HC pore volume maps as well as identification and definition of hydrocarbon prospects in the exploration focus areas. As project manager, my main duties were to merge external geological data with in-house data into unique datasets (seismic volumes, well sampling, wireline log, coring, vintage info, etc) and coordinate different specialities to elaborate the final technical reports of these multidisciplinary regional and focused studies. Moreover, I supported Marketing promotions of these multidisciplinary regional studies and was in charge of the relationship with Governments and National Oil Companies evolved in these studies.

Project manager of the two petroleum geological evaluations carried out in New Zealand by CGG covering Great South, Canterbury, Reinga, Northland and Deepwater Taranaki Basins. Principal Geologist of the CGG BandaSeis 2D survey project carrying out the tectono-sedimentary evolution and petroleum implications of Timor, Tanimbar, Aru and Seram Troughs. Main tasks were the whole seismic and structural interpretation, paleogeographic maps, slicks analysis and maturity maps.

Since January 2017 until May 2019, involved in the interpretation of CGG Gabon 3D Survey carrying out the full structural analysis, seismic interpretation of the syn-rift packages and salt base horizon. Later, I was involved as a seismic interpreter and regional exploration geologist in several blocks' assessment in Myanmar, Gabon 2D survey (extent of the Gabon 3D).

•09/2011-08/2012. NUBIAN CONSULTING Ltd. (United Kingdom). **Petroleum Geologist**. Nubian Consulting is a Geoscience consulting company specialising in the Petroleum Geology of North Africa, with expertise in Libya and Algeria. The main duties were sedimentological and tectono-sedimentary analysis, reviewing reports, seismic dataset, well log and core interpretation, isopach, porosity, Net Gross and depositional maps to produce static geological models with PETREL to confirm the field reserves. Completed the work by identifying a preferred drilling location to test.

The main areas covered were Sirte Basin (Sarir, Tuama, Nasser, Abu Attiffel, Wahah, Amal, Mabruq, Jabal, Barrut, Bahi and Messlah fields), Murzuq and Kufra Basins. Also, I keep updated the Libyan Oil Fields GIS using ArcGIS.

•04/2008-06/2010. EARTH INSIGHT GEOCONSULTING. **Consultant Geologist** at several mining companies of the sector of industrial minerals such as Ball Clays, Clays, Kaolin and K-feldspars. The main companies were: MYTA (special clays), Minera SANTA MARTA (Sodium Sulphate), EUROARCE (clays).

•09/2004-01/2008. BOLHEBAN S.A. (Spain). **Managing Director**. Packaging company with 37 workers and turnover around 4 m€. The main products were: bags, sacks and tubes of polyethylene for B2B trade or retailers. The functions were purchases, production and stocks. Achievements: implementation of a new cost system, stocks reduction in 40% and waste reduction in 14%. The main functions in the company were: purchases management, production and logistics management.

•09/2002-08/2004. EMBALAJES AIR PLASTIC, S.L. (Spain). **Managing Director**. Packaging company with high and low-density polyethylene extrusion facilities with 20 workers and turnover of 3,5 m€. Manufacturing was based on the extrusion of bubble plastic for later manufacturing with other materials into a wide range of products for B2B trade. The main functions were: purchases management (polyethylene as raw material), production and logistics. Achievements were: improvement the cost system and increasing production around 8%.

•02/2001-08/2002. ORTOFOTO, S.A. (Spain). **Managing Director**. Cartographic and Topographic consultancy. The principal functions were the technical, financial and sales management. Main contracts related to the High-speed train engineering works between Zaragoza-Lerida.

•09/1997-09/2000. SAMCA GROUP. **Exploration Mining Geologist**. International Mining Projects. The functions were seeking and analysing the technical and economic viability of industrial minerals projects worldwide. Assessment of the mining reserves, well log, core testing and analysis to produce geological models and confirm the mineral reserves to the company.

The principal projects undertaken were related to Borax (Argentina), Ball Clays (Ukraine), Silica sands and K-Feldspar (Spain & Portugal), Ceramic Clays (Spain), Potashes (Spain), Potashes (Argentina), Borax (Chile and USA), Zircon (Spain and USA), Lithium and Nitrates (Chile) and Bentonites (Turkey).

In Spain I was fully involved in the development of the EUROARCE Navas de Oro Río Pirón Potassium Feldspar deposits. EUROARCE is fully subsidiary of SAMCA. This plant deserves especial mention as feldspar is obtained from feldspar sands by the flotation method. As a result of this process, siliceous sands are obtained with a SiO₂ content of over 96% which, with secondary processes of granulometric classification, allow obtaining different products with a wide range of granulometries. During the SAMCA stage, I join in in several seminars, congresses organised by the Industrial Mineral Magazine and I wrote several articles such as:

- Regueiro, M., **Martinez Duran, P.**, Gonzalo, F. (2000). "Rocas y Minerales Industriales de España". Págs. 295-308. Chapter of the Book: "Rocas y Minerales de Iberoamérica". In Calvo, B., Gajardo, A., Maya, M. Eds. Instituto Tecnológico Geominero de España.
- **Martinez Duran, P.** (2000). "Industrial Minerals in the South Cone". European Geologist, n° 9. Journal of the European Federation of Geologists.
- Gajardo, A., **Martinez Duran, P.**, Regueiro, M. (2000). "Industrial Minerals in South America: European future industrial minerals grain-stock?" In Proceedings. 36th. Forum on Geology of Industrial Minerals and 11th. Extractive Industry Geology Conference. Bath (U.K.).

•06/1993-09/1997. **Geologist Researcher** at Carbonate Sedimentology Group. Tectono-sedimentary and Basin Analysis. University of Zaragoza.

Main publications

Pedro Martinez Duran and Jarrad Grahame (2022). New insights in the offshore fold-and-thrust belt in Timor Trough. AAPG Workshop Structural Styles and Hydrocarbon Prospectivity in Thrust Belt Settings: A Global Perspective. 13-14 June 2022, Barcelona.

Jarrad Grahame and **Pedro Martinez Duran**. (2020). New broadband imaging reveals prospectivity insights. GEO ExPro Magazine, Vol. 17, No. 3.

Martinez Duran, P., Baillie, P., Carrillo, E. & Duval, G. (2019). Geological Development of the Timor Orogen. From: HAMMERSTEIN, J. A., DI CUIA, R., COTTAM, M. A., ZAMORA, G. & BUTLER, R. W. H. (eds) Fold and Thrust Belts: Structural Style, Evolution and Exploration. Geological Society, London, Special Publications, 490, <https://doi.org/10.1144/SP490-2018-120>

Baillie, P., Keep, Myra., **Martinez Duran, P.**, Carrillo, E. & Duval, G. (2019). Broadband seismic imaging around the Banda Arc: changes in the anatomy of offshore fold-and-thrust belts. From: HAMMERSTEIN, J. A., DI CUIA, R., COTTAM, M. A., ZAMORA, G. & BUTLER, R. W. H. (eds) *Fold and Thrust Belts: Structural Style, Evolution and Exploration*. Geological Society, London, Special Publications, 490.

Baillie, P., Carter, Paul. & **Martinez Duran, P.** (2019). Evolution and Plays of the Banda Arc. AAPG. Search and Discovery Article #11245.

Martinez Duran, P., Parsons, M., & Duval, G. (2018). Revealing the Complexities of the Gabon Southern Margin through Gravity, Magnetics and Seismic Data Integration” at the 2018 AAPG International Conference and Exhibition. 4-7 November 2018, in Cape Town, South Africa.

Martinez Duran, P., Parsons, M., Soyer, W., & Duval, G. (2018). Evidence for a more complex crustal setting offshore Gabon: support from a high-resolution regional seismic dataset integrated with 3D grav/mag modelling. 80th EAGE Annual Conference, 11-14 June 2018. Copenhagen.

Martinez Duran, P., Baillie, P., Carrillo, E., & Duval, G. (2017). “Geological development of the offshore Timor Orogen” Poster of “Fold and Thrust Belts: structural style, evolution and exploration”, Petroleum Group of the Geological Society of London, Burlington House, London, UK, 31st October – 2nd November 2017.

Baillie, P., **Martinez Duran, P.**, Carrillo, E., & Duval, G. (2017). “Fold & Thrust Belts of the Banda Arc” Abstracts of ‘Fold and Thrust Belts: structural style, evolution and exploration’, Petroleum Group of the Geological Society of London, Burlington House, London, UK, 31st October – 2nd November 2017.

Parsons, M., **Martinez Duran, P.**, Soyer, W., & Duval, G. (2017). Understanding the tectonic history offshore Southern Gabon with high resolution seismic, gravity and magnetics. *First Break*, 35(September), 1–8.

Edwards, R., Sanderson, M., King, M. Duval, G., and **Martinez Duran, P.** (2017). Enhancing SAR seep interpretation with broadband seismic data: A case study from the Timor Trough. *The APPEA Journal*, in press.

Martinez-Duran, P., Duval, G. and Baillie, P. (2015). New Broadband Seismic Unveils the Complexity of the Timor-Leste Offshore Subduction Zone. AAPG Melbourne. 13-16 September, Melbourne, Australia.

Martinez-Duran, P., Gater, R., Chessser, K., Coates- Harman, T., Davies, B., Fenton, J., Grahame, J., Haager, A., Marin, C., Marsden, C., Tavana, M. and Vakarcs, G. (2015) The Petroleum Potential of the Late Cretaceous-Palaeogene Sediments of the Reinga, Northland and Deepwater Taranaki Basins. AAPG Melbourne. 13-16 September, Melbourne, Australia.

Martinez-Duran, P., Gater, R., Chessser, K., Coates- Harman, T., Davies, B., Fenton, J., Grahame, J., Haager, A., Marin, C. and Vakarcs, G. (2015) Insights into the reservoir quality of the Cretaceous to Miocene sediments of the Reinga/Northland and deepwater Taranaki basins: An integrated approach. 2015 New Zealand Petroleum Conference Proceedings, 29-31 March 2015 (Auckland).

Martinez Duran, P. et al., (2013). Implications of a new analytical programme on the petroleum potential of the late Cretaceous-Palaeocene sediments of the Great South and Canterbury Basins. 2013 New Zealand Petroleum Conference Proceedings, 28 April-01 May 2013 (Auckland).

Pueyo, E.L., Calvin, P., Casas, A.M., Oliva-Urcia, B., Klimowitz, J., García-Lobón, J.L., Rubio, F.M., Ibarra, P.I., **Martínez-Durán, P.**, Rey-Moral, M.C. and Pérez, I., (2012). A research plan for a large potential CO₂ reservoir in the Southern Pyrenees. *Geo-Temas*, 13, pp.1970-1973.

Regueiro, M., **Martinez Duran, P.**, Gonzalo, F. (2000). “Rocas y Minerales Industriales de España”. Págs. 295-308. Chapter of the Book: “Rocas y Minerales de Iberoamérica”. In Calvo, B., Gajardo, A., Maya, M. Eds. Instituto Tecnológico Geominero de España.

Martinez Duran, P. (2000). “Industrial Minerals in the South Cone”. *European Geologist*, n° 9. Journal of the European Federation of Geologists.

Gajardo, A., **Martinez Duran, P.**, Regueiro, M. (2000). “Industrial Minerals in South America: European future industrial minerals grain-stock?” In Proceedings. 36th. Forum on Geology of Industrial Minerals and 11th. Extractive Industry Geology Conference. Bath (U.K).

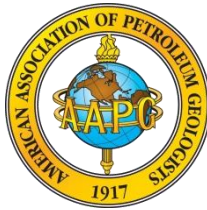
Martinez Duran, P., Melendez, A., Floquet, M. (1997). "Spatial distribution of parasequences controlled by paleogeographical local features. Examples from the Central Iberian Range". 18th Regional Meeting of Sedimentology (I.A.S). Heidelberg, Germany.

Martinez Duran, P., Melendez, A. (1995). "Identification of sequences boundaries in epicontinental carbonate platform. Examples from Late Cenomanian-Middle Turonian. Central Iberian Range, Spain." 16th Regional Meeting of Sedimentology. Abstracts: p.100. Aix-les-Bains, France.

Other Remarks

CGG owner. First Author. US Patent Application No. 62/259.710, Docket No. 101033-US-PSP, title: "*Preferential Fracture Orientation (PFO) and breakability Index (BI) Determination on Geological Material*".

Membership Associations



EAGE
EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

Technical and Professional References

For external and independent references, please free to contact to: **Fernando San Miguel, Samca Group Geology Research Director. (+34 609 859 927)**