

Corporate CV

Alejandro Amilibia-Cabeza
PhD (High Hons), MSc, BSc

Co-Founder & Technical Director

PROFESSIONAL PROFILE

Structural and Regional geologist with 18 years of experience in structural geology and hydrocarbon exploration worldwide. Broad experience in seismic interpretation of complex structural settings, kinematic restoration and prospectivity assessment at all scales, from basin screening to prospect evaluation. Involved in multiple concession rounds and high impact discoveries in the UK - Norwegian Continental Shelf, such as the Johan Sverdrup giant field. He contributes to **terractiva** with his expertise in the global exploration market, and a strong technical background on tectonic-sedimentation interaction and geodynamics in both extensional and inverted tectonic settings. His research track record includes 4 publications in peer-reviewed journals and over 10 oral communications in international conferences.

LANGUAGES

English, Spanish, Norwegian, Catalan, Basic Italian.

EDUCATION	2002	PhD in Earth Sciences Universitat de Barcelona (High Hons. Cum Laude) <i>Thesis project: Inversion Tectonics at the Cordillera de Domeyko, Northern Chilean Andes</i>
	1999	MSc in Geology Structural Geology & Basin Analysis (High Hons) Universitat de Barcelona
	1997	BSc in Geology Universitat de Barcelona (High Hons)



EMPLOYMENT	2017-today	Co-Founder & Technical Director at terractiva Geological consultancy and training for O&G Exploration
	2009-2016	Principal Structural Geologist at Statoil <i>Explorationist and in-house structural geology consultant</i>
	2006-2009	Researcher at Geomodels Research Institute (University of Barcelona)
	2006-2009	Independent Consultant for Cu-Au Mining (Chilean Andes)
	2002-2006	Post-doctoral Researcher at Fault Dynamics Research Group (Royal Holloway University of London)

PROFESSIONAL AFFILIATIONS

Member, American Association of Petroleum Geologists.

PROFESSIONAL EXPERIENCE

Geological conceptualization and exploration in all types of tectonic-basin settings worldwide (Norwegian Continental Shelf (NCS), Gulf of Mexico (GoM), Flemish Pass, Tanzania, South Atlantic Margins, the Black Sea, Zagros FTB, East Mediterranean, Andes, etc). Strongly competent in seismic interpretation, kinematic restoration, prospect generation & evaluation, petroleum system assessment (PSA), in both Oil & Gas and Mining sectors. Working at all scales and with different datasets (seismic surveys, Grav-Mag data, field data, satellite data, etc).

Exploration Studies

North America

- 3D and 2D seismic interpretation and basin screening/PS assessment in the Flemish Pass, offshore Canada: *extensional tectonics – multi-rift system*.
- 2D seismic interpretation and restoration in the Mackenzie Delta, Beaufort Sea, offshore Canada: *compressional tectonics – passive margin*.
- 2D seismic interpretation and lithospheric modelling in the Chukchi Sea, Alaska, offshore USA: *extensional tectonics*.

South America

- Filed Mapping and Geological Modelling in the Andean Cordillera, Chile: *compressional and strike-slip system - oblique subduction*.
- QC & QA of 3D and 2D seismic interpretation in the Santos Basin, offshore Brazil: *extensional system, salt tectonics – passive margin*.

Caribbean

- 3D and 2D seismic interpretation and basin screening/PS assessment in the Guajira Basin, offshore Colombia: *inverted system – oblique subduction*.
- 2D seismic interpretation and basin screening/PS assessment in the Sandino Basin, offshore Colombia: *inverted system – oblique subduction*.
- 3D seismic interpretation and kinematic restoration in the Alaminos Canyon, GoM, offshore USA: *compressional, salt tectonics*.

Asia

- 3D and 2D seismic interpretation and basin screening/PS assessment in the Black Sea, offshore Turkey/Russia/Ukraine: *extensional and compressional systems, endorheic basin*.
- 3D and 2D seismic interpretation and basin screening/PS assessment in the Nile Delta Basin, offshore Egypt: *extensional systems, salt tectonics, passive margin*.

Oceania

- QC & QA of 3D and 2D seismic interpretation in the Ceduna Basin, offshore Australia: *extensional, compressional and salt tectonics*.

Europe (UK, NCS, East Med)

- 3D and 2D seismic interpretation and kinematic restoration in the Viking Graben, offshore Norway: *extensional setting, inversion and salt tectonics, rift basin*.
- Prospect generation and evaluation, NCS, offshore Norway.
- 3D and 2D seismic interpretation, kinematic restoration and Prospectivity assessment along the NEAM (Barents Sea, Voring Basin, More Basin, West Shetlands).
- 3D and 2D seismic interpretation, kinematic restoration and Prospectivity assessment in the Mid North Sea High, offshore UK.
- 3D and 2D restoration in the Morey Firth Basin, North Sea, offshore UK: *extensional systems, uplift History, rift system*.
- 2D seismic interpretation, kinematic restoration and lithospheric modelling in the Levant Basin, East Mediterranean: *extensional and compressional systems*.

Africa

- 2D and 3D restoration, offshore Tanzania: *extensional setting and strike-slip – passive margin*.
- 3D seismic interpretation, structural analysis and 2D restoration in the Kwanza basin, offshore Angola: *extensional systems, passive margin*.
- 2D kinematic restoration in the Congo Delta, offshore Nigeria: *thrust tectonics, passive margin*.
- 2D seismic interpretation and basin screening in the Orange Basin, offshore South Africa: *gravitational tectonics, passive margin*.
- 3D and 2D seismic interpretation and basin screening/PS assessment in the Nile Delta Basin, offshore Egypt: *extensional systems, salt tectonics, passive margin*.

COMPUTER SOFTWARE EXPERTISE

Geological Modelling	Midland Valley Blue Marble Paradigm	2010-2017 versions of Move Global Mapper GOCAD 2006-2014
Seismic Interpretation	IHS Schlumberger Halliburton dGB Earth Sciences	The Kingdom Suite Petrel 2013-2016 DecisionSpace OpendTtect
GIS:	ArcGIS	
Graphical:	Corel Draw, Freehand, Adobe Illustrator and Photoshop	
Microsoft Office:	Word, Excel, PowerPoint, Access	
Operating Systems:	Windows, Linux, Mac OS	

TEACHING EXPERIENCE

- Structure and Fault Systems in Hydrocarbon Exploration and Production (Southern Pyrenees, Spain), Nautilus Course, 2007/2008.
- Field structural geology for geology undergraduates. March/2000. Dept. Geodinàmica i Geofísica.
- Field geology and mapping for Engineering geology undergraduates. March/1998/1999/2000. Dept. Geodinàmica i Geofísica.
- Structural Mapping and balancing cross-sections for Msc Tectonics post-graduated students. January/2004. Geology Dept., RHUL.
- Tectonic Evolution of the Southern Andes for Msc Tectonics post-graduated students. February/2003/2004. Geology Dept., RHUL.

FIELD EXPERIENCE

2008	Zagros of Iran, Iran. (Fold and Thrust Belt, Hydrocarbon Exploration)
2007	Pyrenees – Ebro Foreland Basin, Spain. (Fold and Thrust Belt, Inversion Tectonics, Filed analogues)
2004 - 2006	Chañarcillo Basin, Costal Cordillera, Copiapo Region, Chile. (Subduction zone, inversion Tectonics, Ore-deposits)
1997 – 2004	Domeyko Pre-cordillera, Northern Chilean Andes, Chile. (Subduction zone, inversion Tectonics, Ore-deposits)

PROFESSIONAL DEVELOPMENT

- Statoil in-house courses including: Petrel seismic interpretation, Fracture Carbonates, Fault Seal Analysis, Prospect Evaluation, Basin and Play Evaluation, etc.
- Advanced Structural Geology for Petroleum Exploration, Instructor: Ken McClay, Statoil, 2009.
- Practical Salt Tectonics, Instructor: Mark Rowan, Glasgow, December 2003.
- Tectonics of the lithosphere in convergent settings, foreland basins and P-T-t modelling: from the Netherlands Research School of Sedimentary Geology (NSG) and Eurobasins Research Group at *Vrije Universiteit* of Amsterdam. Instructors: Prof. Dr. S.A.P.L. Cloetingh, Dr. B.P. Zoetemeijer and Dr. J.D. van Wees. 1998.
- Structural and Sequence stratigraphic modelling of sedimentary basins: from Eurobasins Research Group School at *Royal Holloway University of London*. Instructor: Prof. D.J. Blundell. 1998.

SELECTED PUBLICATIONS

- Snidero, M., **Amilibia, A.**, Gratacos, O., Blanc, E. J-P., Muñoz, J.A., (2011): The 3D reconstruction of geological structures based on remote sensing data: example from the Anaran anticline, Lurestan province, Zagros fold and thrust belt, Iran. *Journal of the Geological Society, London*, Vol. 168, pp. 769–782.
- Snidero, M., **Amilibia, A.**, Gratacos, O., Blanc, Muñoz, J.A., (2010): 3D reconstruction of geological structures based on remote sensing data: example from Anaran anticline (Lurestan province, Zagros fold and thrust belt, Iran). *Trabajos de Geología, Universidad de Oviedo*, 30, pp. 221-227.
- Almar, Y., Ferrer, O., Roca, E., Puigvert, M., **Amilibia, A.**, Muñoz, J.A., (2008): A geological cross-section along the Basque Pyrenees and the Parentis Basin (Western Pyrenees). *Geotemas, Madrid*, Vol. (10) VII, pp. 422-424.
- Amilibia, A.**, Sàbat, F., McClay, K.R., Muñoz, J.A., Roca, E., Chong, G., (2008): The role of inherited tectono-sedimentary architecture in the development of Central Andean mountain belt: insights from the Cordillera de Domeyko. *Journal of Structural Geology*, 30, pp. 1520-1539.
- McClay, K., Whitehouse, P., **Amilibia, A.**, DeVera, J., & Djebbar T., (2004): 4D Evolution of fault systems in sedimentary Basins: A review. *PESA Eastern Australasian Basins Symposium II*, pp. 1-26
- Amilibia, A.**, McClay, K.R., Sàbat, F., Muñoz, J.A. & Roca, E. (2005): Analogue modelling of inverted oblique rift systems. *Geologica Acta*. Vol.3, nº3, pp. 251-271.
- Amilibia, A.**, Skarmeta, J. (2003): La inversión tectónica de la Cordillera de Domeyko en el Norte de Chile y su relación con la intrusión de sistemas pófidicos de Cu-Mo. *Actas del X Congreso Geológico Chileno*, ST2, Pag. 0-6

Amilibia A., Sàbat F., Chong G., Muñoz J.A., Roca E. & Gelabert B. (2000): Criterios de Inversión tectónica, ejemplos de la Cordillera de Domeyko (II Región de Antofagasta). *Geotemas*, 1, (1), Pag. 33-36.

Amilibia A., Sàbat F., Chong G., Muñoz J.A., Roca E. & Rodríguez-Perea A. (1999): Evolution of Domeyko Range, Northern Chile. *Géodynamique andine, Résumés étendus, Fourth International Symposium on Andean Geodynamics, Gottingen (Germany)*, pp. 25-29.

SELECTED CONFERENCE ABSTRACTS

Amilibia, A., (2008): Compressional deformation along the Chañarcillo Basin west margin: north Chilean Late Jurassic-Early Cretaceous back-arc basin. *YORSGET: International Meeting of Young Researchers in Structural Geology and Tectonics, Oviedo, Spain.*

Snidero, M., **Amilibia, A.,** Gratacos, O., Muñoz, J.A., (2008): 3D Reconstruction of geological structures based on remote sensing data: example from Anaran Anticline, (Lurestan province, Zagros fold and thrust belt, Iran). *YORSGET: International Meeting of Young Researchers in Structural Geology and Tectonics, Oviedo, Spain.*

Muñoz, J.A.; **Amilibia, A.;** Carrera, N.; Mon, R.; Chong, G.; Roca, E.; Sàbat, F., (2007): The Southern Central Andes at 25.5°SL: a Non-Balanced Crustal Cross-Section. *Eos Trans. AGU, 88(23), Jt. Assem. Suppl., Abstract U52A-01.*

Amilibia, A., Sàbat, F., McClay, K.R., Muñoz, J.A., Roca, E., Chong, G., (2007): Structural Style and Tectonic Evolution of the Domeyko Range, North Chilean Precordillera. *Eos Trans. AGU, 88(23), Jt. Assem. Suppl., Abstract U51B-02.*

Muñoz, J.A.; **Amilibia, A.;** Carrera, N.; Mon, R.; Chong, G.; Roca, E.; Sàbat, F., (2005). A geological cross-section of the Andean orogen 25.5 LS. *6th International Symposium on Andean Geodynamics-ISAG. Barcelona.*

McClay, K. & **Amilibia, A.** (2004): Inversion Orogens. *Continental Tectonics: Discussion meeting in memory of life and work of Mike Coward. Geological Society of London. Invited.*

Amilibia, A., McClay, K.R. & De Vera, J. (2004): Inverted oblique rift systems, Analogue modelling and natural examples. In: *G23.03: Tectonic Inversion processes and structural inheritance in mountain belts. 32nd International Geological Conference, Florence.*

Amilibia, A., McClay, K.R., Skarmeta, J. & Bourdon, E. (2003): Inversion Tectonics at Cordillera de Domeyko (North Chile) and its control on Giant Porphyry Copper emplacement: New insights on Flat-slab Subduction Kinematics during the Tertiary. *GSA Annual Meeting, 2003. Abstract Volumen, page 161.*

Amilibia, A. & Skarmeta, J. (2003): La inversión tectónica de la Cordillera de Domeyko en el norte de Chile y su relación con la intrusión de sistemas porfídicos de Cu-Mo. *X Congreso Geológico Chileno. Actas. Sesión Temática-2.*

Amilibia, A., Sàbat, F., Chong, G., Muñoz, J.A., Roca, E. & Gelabert, B. (2000): Criterios de Inversión tectónica, ejemplos de la Cordillera de Domeyko (II Región de Antofagasta). *V Congreso Geológico de España, Alicante.*



Amilibia, A., Sàbat, F., Chong, G., Muñoz, J.A., Roca, E. & Gelabert, B. (2000): Criterios de Inversión tectónica, ejemplos de la Cordillera de Domeyko (II Región de Antofagasta). IX Congreso Geológico Chileno. Puerto Varas-X Región de los Lagos-Chile.

Amilibia, A., Sàbat, F., Chong, G., Muñoz, J.A., Roca, E. & Rodríguez, A. (1999): Fourth International Symposium on Andean Geodynamics, ISAG. Gottingen (Germany). Best poster award for "Evolution of Domeyko Range, Northern Chile".