CURRICULUM VITAE

RICARDO CASAR-GONZÁLEZ

PERSONAL DETAILS
Name: RICARDO CASAR-GONZÁLEZ
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CURRENT ACTIVITY
Geologist Consultant in Evaluation of Natural Resources with Geostatistical Methods:
Geostatistics applied to geosciences. Geological and petrophysical modeling of oil reservoir. Geostatistical methods applied to the evaluation of mineral resources. Geostatistics for assessment of contaminated sites.

EDUCATION BACKGROUND

Doctorate Degree
1999-2003: National Autonomous University of Mexico, Faculty of Engineering. Degree: Doctor in Engineering (Exploration). Thesis: Stochastic Modeled of Petrophysical Properties in High Secondary Porosity Reservoirs. Date of graduation: November 14, 2003.

Specialization Diploma
1996-1997: Paris School of Mines, Center of Geoestatistics. Cycle of Formation of Specialists in Geostatistics (CFSG) (program in English language). Fontainebleau, France. Diploma: Specialist in Geostatistics. Final Report: Integration of Seismic Attributes and Petrophysical Properties in a Gas Reservoir Using Geostatistics. Date of graduation: June 30, 1997.

Master Degree
1988-1990: National Autonomous University of Mexico, Faculty of Engineering. Degree: Master in Engineering (Operations Research and Planning). Thesis: Planning of an Information System Applied to the Oil Exploration Process. Date of graduation: September 2, 1993.

Bachelor
1974-1978: National Autonomous University of Mexico, Faculty of Engineering. Bachelor: Geologist Engineer. Thesis: Location of Favorable Sites for the Construction of Underground Cavities Designed to Hydrocarbon Storage. Date of graduation: October 15, 1981.

ASSISTANCE TO INTERNATIONAL COURSES:

- Geostatistical Simulations for Reservoir Characterization. Geovariances. Instructor: Matthieu Bourges. Duration: 40 hrs. Houston, Texas, U.S.A. 2011.
- Decision and Risk Analysis. CONOCO, Inc. Instructors: H. H. Hardy & Richards A. Beier. Duration: 40 hrs. Ponca City, Oklahoma, U.S.A. 1997.
- Geostatistics for Reservoir Characterization. Geomath, Inc. Instructors: Jean Louis Gelot & Didier Renard. Duration: 40 hrs. Houston, Texas, U.S.A. 1995.
- Geostatistics for Reservoir Description. Oil and Gas Consultants International Inc. Instructor: Mohan Kelkar. Duration: 40 hrs. Colorado Spring, Colorado, U.S.A. 1994.

LANGUAGES

- **Spanish:** Mother tongue
- **English:** Advance level
- **French:** Basic level

COMPUTER SKILLS

- Microsoft (Word, Excel, Power Point)
- PETREL (Petroleum Industry - Schlumberger)
- ISATIS (Geostatistics - Geovariances)

PROFESSIONAL EXPERIENCE

A) **MEXICAN PETROLEUM INSTITUTE**

2004 – 2014: Research and applications in Geostatistics:
Activities: Elaboration a methodology for the geological and petrophysical modeling of oil reservoir (reservoir characterization with geostatistics methods). Participation in projects applying geostatistics methods to obtain geological and petrophysical models of oil reservoirs. The models were related to different geological environments and different geostatistic techniques were applied (estimation and stochastic simulation). The simulated variables were facies (different kinds of rocks) and the main petrophysical properties. The reservoirs involved in the projects were naturally fractured carbonated reservoirs at the offshore region at Sonda de Campeche and siliciclastic reservoir at Chicontepec basin, México.

1999 – 2003: Research and applications in Geostatistics:
Activities: Elaboration a methodology for a stochastic simulation of a vuggy carbonate porous media with geostatistics methods. The research was done as a doctorate

research to obtain a doctorate degree. The application was done using data from a reservoir of the offshore region at Sonda de Campeche, Mexico.

1989 – 1996: Analyst of Exploration Information Systems:
Activities: Participation in a project in which were done an information system for oil exploration data the processes. The project included conceptual model, commercial software evaluation, start-up of the system and their administration.

1981 – 1982: Geologist:
Activities: Participation in a project in which were done a sedimentological and stratigraphical study of the Upper Jurassic in Chihuahua basin, México.

1980 – 1981: Geologist:
Activities: Participation in a project which consisted in advising from geological point of view for locating favorable sites for the construction of cavities for hydrocarbon underground storage.

B) **COMPAÑÍA MINERA AUTLAN, S.A. de C.V.**

1983 -1987: Geologist:
Activities: Prospecting, exploration and reservoir evaluation of industrial quartz and silica sands. Technical assistance to quartz providers of the company.

C) **GEOMATEMÁTICAS, S.C.**

1982: Geologist (partner and administrator):
Activities: Elaboration of contouring maps of magnetometry and gravimetry data using automated contouring commercial software SACM (Control Data).

D) **GEÓLOGOS CONSULTORES ASOCIADOS, S.A.**

1979: Geologist
Activities: Participation in a project which consisted in geological cartography with aerial photography, field verification and geological interpretation.

TECHNICAL REPORTS IN RESEARCH PROJECTS (author and co-author)

Geological and Petrophysical Model in a Sandy Clay Reservoir Analog Deposits at Acatepec location at Hidalgo State, México. The SENER-CONACYT Fund No. 143 935 (Y-00114) Project: "New methodologies and tools considering static and dynamic characterization of the oil reservoirs fractal properties ", May 12, 2014.

Geological and Petrophysical Model of the Test Driver Interval of CO2 Injection in the Multiwell 331, Coyotes Reservoir, Chicontepec Basin. The SENER-CONACYT No. 116606 fund (Y.00102) Project: "Alternating Injection of Water and Gas (WAG) as Enhanced Recovery System ", July 29, 2013.

Methodology to Obtained Geological-Petrophysical Models with Fractal Properties, Based on the Application of Geostatistical Methods. The SENER-CONACYT Funds, No. 143 935 (Y-00114) Project: "New Methodologies and Tools for Static and Dynamic Characterization Considering Fractals Properties of the Oilfields ", October 24, 2011.

Geological Interpretation of Producing Horizons in the Cretaceous and Jurassic at the Cantarell Field. Project: F.30686: May-December 2007.

Statistical Analysis of Geological and Petrophysical Data. Elaboration of Maps of The Distribution of Geological, Petrophysical and Dolomitization Properties. Project F.30693: "Distribution Models Petrophysical Properties Deposits in the Northeast Marine Region; México", Nov 2006-Sep 2007.

Model in 3D of the Distribution of the Lithostratigraphic and the Concentration of the Pollutants. Project: F.21399 "Support for the Characterization and Restoration of the Northern Area of the Former Refinery 18 of March", 19 June to 31 October 2006.

Basic Statistical Analysis of Petrophysical Data Obtained in Different Lithofacies. Project F.30617: "Petrographic Studies of Core and Channel Samples and Technical Assistance and Research in Sedimentology, Diagenesis and Fractures Analysis in the Northeastern Marine Region" January-July 2006.

Geological and Petrophysical Modeling of the Oil Field AMATITLAN-SOLEDAD-COYOTES. Project F.42432 "Update of the Diagenetic Model of the Chicontepec Formation" Active Oil Production Field Altamira-Poza Rica, Pemex, March 2005.

TEACHING

2004 – 2013: Professor
National Autonomous University of Mexico. Posgrade Program in Earth Sciences. Course of Basic Geostatistics. Teachers: Martín Díaz-Viera, **Ricardo Casar González** and Javier Méndez-Venegas. 10 courses (biannual).

2004 – 2007: Professor
Mexican Petroleum Institute, Direction of Research and Graduate Studies. Course of Basic Geostatistics. Professors: Martin Diaz Viera and **Ricardo Casar González**. 4 courses (biannual).

1981 -1982: Professor
National Autonomous University of Mexico, Faculty of Engineering. Physical Geology Laboratory. Professor: **Ricardo Casar González**. 2 courses (biannual).

1978: Professor
National Autonomous University of Mexico, Iztacala Campus. General Geology Course. Professor: **Ricardo Casar González**.1 course (biannual).

IMPARTATION OF SHORT COURSES

2015: Instituto Mexicano del Petróleo. Oil Reservoir Characterization Course. Subject taught: Geostatistics for oil reservoir characterization. Duration: 36 hrs. Professor: **Ricardo Casar González**. August 24 to September 4, 2015.

2014: Instituto Mexicano del Petróleo. Oil Reservoir Characterization Course. Subject taught: Introduction and integration with geostatistics methods. Duration: 16 hrs. Professor: **Ricardo Casar González**. Two courses. August and October 2014.

2011: Universidad Catolica del Norte, Antofagasta, Chile. Training Workshop of Basic Geostatistics. Duration: 20 hrs. Professors: Martin Diaz Viera and **Ricardo Casar González**. August 01 to 06, 2011.

2009: Mexican Petroleum Institute. Workshop of Basic Geostatistics Applied to Geomechanics. Duration: 20 hrs. Professors: Martin Diaz Viera, **Ricardo Casar Gonzalez** and Javier Mendez Venegas. September 21 to 25, 2009.

2009: National Autonomous University of Mexico, Faculty of Engineering, Division of Continuing and Long Distance Education. Training Workshop of Basic Geostatistics Applied to Soils. Duration: 30 hrs. Professors: Martin Díaz Viera, **Ricardo Casar González** and Javier Méndez Venegas. June 22 to 26, 2009.

2006: National Autonomous University of Mexico, Faculty of Engineering. Geological and Petrophysical Modeling of Oil Reservoirs. Duration: 40 hrs. Professors: Martin Diaz Viera and **Ricardo Casar González**. September 25 to 29, 2006.

ADVISING AND TUTORING OF THESIS

Advising master degree thesis: "Facies Automated Classification at Well Logs Scale Using Artificial Neural Networks In Sicicíclastic Turbidite Fields ", Christian Agni Herrera Ramirez. Division of Graduate Studies, Faculty of Engineering, UNAM, March 14, 2014.

Advising master degree thesis: "A Model for Geostatistical Uncertainty Assessment of Coal Reserves Estimated Peñitas Mine - In Guadalupe Nuevo Laredo, Tamaulipas", Juan Carlos Marquez Adame. Postgraduate Earth Sciences, Institute of Geophysics, UNAM, November 28, 2013.

Advising bachelor degree thesis: "Exploratory Data Analysis in Geostatistical Estimation", Aura Archundia Avila, Faculty of Sciences, UNAM, December 8, 2011.

Advising master degree thesis: "Estimate Geostatistics Space Distribution Media Monthly and Annual Precipitation in The State of Nuevo Leon", Silvio Gustavo

Villarreal Maces. Postgraduate Earth Sciences, Institute of Geophysics, UNAM, September 19, 2011.

Advising master degree thesis: "Optimal Design of Aquifer Monitoring Network Saltillo-Ramos Arizpe Chihuahua for the Adequate Management of Water Resources Applying a Geostatistical Approach", Félix Canul Pech. Postgraduate Earth Sciences, Institute of Geophysics, UNAM, May 19, 2011.

Advising master degree thesis: "Modeling the Spatial Distribution of Precipitation in The Valley of Mexico City Using Geostatistics", Javier Venegas Mendez, Master of Statistics, Graduate College, Campus Montecillo, Chapingo, Edo. Mex. May 29, 2008.

Tutoring master degree thesis: “Geostatistical modeling of lithofacies and petrophysical classes in fractured carbonate reservoir in southeastern Mexico”, Sandra Paola Zarza Atzin, Division of Graduate Studies, Faculty of Engineering, UNAM, March, 2006.

Co-tutoring master degree thesis "Integral Reservoir Characterization: Data Integration with Well Logs, Seismic Attributes and using Geostatistics", Jimenez Martin Guerrero. Division of Graduate Studies, Faculty of Engineering, UNAM, September 14, 2005.

PUBLICATIONS

R. Casar-González & V. Suro-Pérez. “Stochastic simulation of a vuggy carbonate porous media” In Mathematical and Numerical Modeling in Porous Media: Applications in Geosciences. Vol. 6, ISSN: 1877-0274. Chapter 12. Multiphysics Modeling Series. CRC Press. Taylor & Francis Group. 337 Pages Editors: Martin A. Díaz Viera, Pratap Sahay, Manuel Coronado and Arturo Ortiz Tapia. (July 2012).

R. Casar-González, M. Díaz-Viera, G. Murillo-Muñetón, L. Velasquillo-Martínez, J. García-Hernández & E. Aguirre-Cerda. “A 3D geostatistical model of Upper Jurassic Kimmeridgian facies distribution in Cantarell oil field, Mexico”. In Mathematical and Numerical Modeling in Porous Media: Applications in Geosciences. Vol. 6, ISSN: 1877-0274. Chapter 9. Multiphysics Modeling Series. CRC Press. Taylor & Francis Group. 337 Pages Editors: Martin A. Díaz Viera, Pratap Sahay, Manuel Coronado and Arturo Ortiz Tapia. (July 2012).

Casar-González, R. & Suro-Pérez, V. “Two Procedures for Stochastic Simulation of Vuggy Formations” Paper SPE 69663. Presented at the 2001 SPE Latin American and Caribbean Petroleum Conference and Exhibition, Buenos Aires, Argentina. March 2001.

Casar-González, R. & Suro-Pérez, V. “Stochastic Imaging of Vuggy Formations.” Paper SPE 58998. Presented at the 2000 SPE International Petroleum Conference and Exhibition, Villahermosa, México. February 2000.

Casar-González, R. "Modelo Conceptual de un Sistema de Información Aplicado a la Exploración Petrolera". Boletín de la Asociación Mexicana de Geólogos Petroleros, Vol. XLIV, No. 1, Enero-Junio 1994.

Araujo-Mendieta, J. y Casar-González, R. "Estratigráfia y Sedimentogía del Jurásico Superior en la Cuenca de Chihuahua, Norte de México" Revista del Instituto Mexicano del Petróleo, Vol. XIX, No. 1, Enero 1987.

PATENTS AND COPYRIGHTS

Díaz Viera Martín Alberto, Casar González Ricardo, Cusultchi Marcu Ana, Moctezuma Berthier Andrés. “Method for the Determination of the Distribution of Smectite in a Stratigraphic Column”, Registration number: 03-2013-110512280101-01, National Institute of Copyright, Mexico. November 11, 2013.

Casar R. Gonzalez Diaz Viera MA, Méndez J. Venegas, V. Hernández Maldonado, Checa Rojas P., Mendoza F. Torres, Cruz Castillo M., and R. Torres Vargas Acosta Angeles A.: "Geological and Petrophysical Model of The Pilot Test of CO2 Injection in The Multiwell 331, Coyote Reservoir at Chicontepec Basin” Registration number: 03-2013-091112234500-01, National Institute of Copyright, Mexico. September 18, 2013.

Díaz Viera Martín Alberto, Casar González Ricardo, Luis G. Velasquillo Martínez, Claudia Ramírez Ortega, Méndez Venegas Javier, Hernández Maldonado Víctor Miguel, Mendoza Torres Francisco, Checa Rojas Paola. “Geological and Petrophysical Modelo of the Multiwell 31 of the Coyotes Field, Chicontepec Basin”. Registration number: 03-2013-110512112200-01. National Institute of Copyright, Mexico. 2013.

Diaz Viera MA, González R. Casar, V. Hernández Maldonado, Venegas J. Mendez, and F. Mendoza Torres and Checa Rojas P. "Methodology for the Geological and Petrophysical Modeling using Fractal Geostatistics" Registration number: 03-2013 - 091112215300-01, National Institute of Copyright, Mexico. September 18, 2013.

Casar R. Gonzalez Diaz Viera MA, Hernández V. Maldonado, J. Méndez Venegas, F. Mendoza Torres and Checa Rojas P: "Methodology for the Geological and Petrophysical Modeling using Geostatistics Methods" Registration number: 03 -2012-071712190800-01, National Institute of Copyright, Mexico. July 26, 2012.

Casar González Ricardo and Suro Pérez Vinicio. “Methodology to Obtain Stochastic Digital Models of Porous Media of Carbonated Vuggy Rocks by Sequential Indicator and Gaussian Simulation” Registration number: 03-2004-100813305700-01. National Institute of Copyright, Mexico. October 25, 2004.

INTERNATIONAL CONFERENCES

Casar-González Ricardo, Martín A. Díaz-Viera, Javier Méndez-Venegas, Paola Checa-Rojas, Víctor Hernández-Maldonado. The Role of Geostatistics in Geological and Petrophysical Oil Reservoir Modeling. 2012 GSA Cordilleran Section Meeting. March 2012, Juriquilla, Querétaro, México.

Casar-González Ricardo, Martín A. Díaz-Viera, Javier Méndez-Venegas, Víctor Hernández Maldonado, Paola Checa-Rojas. The Role of Geostatistics in Petroleum Reservoir Modeling: Some Examples of Mexicans Reservoir. 9th North American Workshop on Applications of the Physics of Porous Media, CICESE, October 2011, Ensenada, B.C. México.

Casar-González Ricardo, Martín Díaz-Viera, Gustavo Murillo-Muñeton, Luis G. Velasquillo-Martínez, Jesús García-Hernández, Eduardo Aguirre-Cerda. "3D Geostatistical Model of the Upper Jurassic Kimmeridgian Facies Distribution in the Cantarell Oil field, México". V Internacional Conference in Numerical Methods." 2010, Guanajuato, México.

Casar-González, R. and Suro-Pérez, V. "Spatial analysis and stochastic simulation of a vuggy porous medium" Annual Conference of The International Association for Mathematical Geology. Toronto, Canadá, 2005.

Díaz-Viera, M. and Casar-González, R. "Stochastic simulation of complex dependency patters of petrophysical properties using t-copulas" Annual Conference of The International Association for Mathematical Geology. Toronto, Canadá, 2005.

Casar-González, R. and Suro-Pérez, V. "Stochastic simulation of vuggy porous media in the K/T boundary carbonate breccia from the Campeche Sound" AAPG International Conference & Exhibition. Cancún, México, 2004.

Casar-González, R. and Suro-Pérez, V.: "Two Procedures for Stochastic Simulation of Vuggy Formations" Paper SPE 69663. 2001 SPE Latin American and Caribbean Petroleum Conference and Exhibition. Buenos Aires, Argentina. 2001.

Casar-González, R. and Suro-Pérez, V. "Stochastic Imaging of Vuggy Formations." Paper SPE 58998. 2000 SPE International Petroleum Conference and Exhibition. Villahermosa, México. 2000.

PROFESSIONAL MEMBERSHIPS

Sociedad Geológica Mexicana (Mexican Geological Society).

Asociación de Ingenieros de Minas, Metalurgistas y Geólogos de México (Association of Mining Enginners, Metallurgical Enginners, and Geologist of México).

International Association for Mathematical Geosciences.