

CURRICULUM VITAE

DR. MUMTAZ MUHAMMAD SHAH

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DISTINCTIONS

- Got HEC Scholarship for MS leading to PhD.
- Obtained partial funding for PhD project from PETROBRAS for fieldtrips and geochemical analyses.
- Successfully completed project for PETROBRAS on the Reservoir characterisation of hydrothermal dolomites.
- Organized international workshop on hydrothermal dolomites in IFP-Energies nouvelles, participated by TOTAL, Statoil hydro, ENI, University of Bilbao, K. U. Leuven, and others.

TECHNICAL COMPETENCE

Extensive field studies on basinal scale as well as on local scale for reservoir characterization; Petrophysical studies including porosity and permeability analyses through analytical means and quantitative image analyses; Diagenetic studies in carbonates; Hands on experience on utilising ARXIM-COORES software for reactive transport modelling and TEMIS-3D for basin modelling; Well log analyses; Facies and microfacies analyses; Reconstitution of paleoenvironments; Sequence and cyclostratigraphy; Fluid inclusion analyses; Microsampling for isotope studies and major and trace elements analyses; Stable, radiogenic and hydrogen isotope studies; Major and trace elements studies; SEM & ICP-AES studies; XRD and XRF analyses; Studies of more than 1000 thin sections through optical microscope and cathodoluminescence. Studies of numerous thin sections for hydrocarbon occurrences under X-ray Fluorescence. Rock-Eval analyses for source rock maturation.

EXPERIENCE

01/07-06/11 **Research Associate**, IFP Energies nouvelles; Département Sédimentologie-Stratigraphie; 1 et 4 Av. de Bois-Préau 92852 Rueil-Malmaison, FRANCE.

08/01 – 06/06 **Lecturer**, Department of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan.

INDUSTRIAL PROJECT (PETROBRAS)

“Characterization of the Middle Cretaceous carbonate reservoirs of the Atlantic margin in Brazil”. Institut Français du Pétrole **report 60 164- January, 2008.**

ACADEMIC QUALIFICATION

2008- 10/2011 **PhD**, Ecole des Mines, Saint Etienne (France), Katholieke Universiteit, Leuven (Belgium) and IFP Energies nouvelles, Rueil (France). "Hydrothermal (fault-related) dolomites in the platform carbonates (early Albian) in the zone of Ranero (NW Spain): distribution, petrography, geochemistry and their genesis". Public defense on 20/10/2011 & 13/12/2011 in Rueil Malmaison (France) and Leuven (Belgium) respectively.

- 2007-2008** DES, Université Pierre et Marie Curie (Paris-VI). "Petrographic, geochemical and petrophysical characteristics of hydrothermal dolomites in the Cretaceous of Cantabrian chain (NW Spain)" in **IFP Energies nouvelles**.
- 2006-2007** Master, Université Pierre et Marie Curie, (Paris-VI). "Effect of Hydrothermalism on Carbonate reservoirs" in **IFP Energies nouvelles**.
- 1999-2002** M.Phil. Quaid-i-Azam University, Islamabad (Pakistan). Studies of stromatolites in the Cambrian Abbottabad Formation (Azad Kashmir).
- 1997-1998** MSc Geology, University of Peshawar, Peshawar.
- 1994-1997** BSc (Hons) Geology, University of Peshawar.

PUBLICATIONS

- 2012** **Shah, M. M.**, Nader, F. H., Garcia, D., Swennen, R., Ellam, R. Hydrothermal dolomites in the lower Cretaceous (Albian) platform carbonates (Karrantza valley, N.W Spain): Nature and origin of dolomites and dolomitising fluids. *Oil & Gas Science and Technology- Revue de l'IFP*. Vol. 67, No. 1, pp. 97-122. DOI: [10.2516/ogst/2011174](https://doi.org/10.2516/ogst/2011174)
- 2012** Nader, F. H., Lopez-Horgue, M. A., **Shah, M. M.**, Dewit, J., Garcia, D., Swennen, R., Iriarte, E., Muechez, Ph., Caline, B. The Ranero hydrothermal dolomites (Albian, Karrantza valley, northwestern Spain): Implications on conceptual dolomite models. *Oil & Gas Science and Technology- Revue de l'IFP*. Vol. 67, No. 1, pp. 9-29. DOI: [10.2516/ogst/2011165](https://doi.org/10.2516/ogst/2011165)
- 2011** Swennen, R., Dewit, J., Fierens, E., Muechez, Ph., **Shah, M. M.**, Nader, F., Hunt, D. (2010) Multiple fluid flow dolomitisation events along the Ranero Fault (Pozalagua Quarry, Basque – Cantabrian Basin) explained by episodic earthquake activity. **Sedimentology**. DOI:[10.1111/j.1365-3091.2011.01309.x](https://doi.org/10.1111/j.1365-3091.2011.01309.x)
- 2010** **Shah, M. M.**, Nader, F. H., Dewit, J., Swennen, R., Garcia, D. (2010) Fault-related hydrothermal dolomites in Cretaceous carbonates (Cantabria, Northern Spain): Results of petrographic, geochemical and petrophysical studies. **Bull. Soc. Géol. Fr.**, t. 181, n° 4, pp. 391-407.
- 2009** Nader, F. H., Dumont, C., **Shah, M. M.**, Garcia, D., Swennen, R., Daniel, J-M., Lerat, O., Deligez, B. (2009) From field study to numerical modeling of hydrothermal dolomitization in Early Cretaceous platform carbonates (Cantabrian mountains, northern Spain). **Journal of Geochemical Exploration**, Vol. 101, Issue 1, p. 73. DOI:[10.1016/j.gexplo.2008.11.013](https://doi.org/10.1016/j.gexplo.2008.11.013)
- 2009** Swennen, R., Dewit, J., Fierens, E., Muechez, Ph., Foubert, A., Nader, F., **Shah, M. M.**, Hunt, D. (2009) Evidence of repeated hot fluid pulses along the Ranero fault system (Cantabrian Mountains, Northern Spain). **Journal of Geochemical Exploration**, Vol. 101, Issue 1, p. 100. DOI:[10.1016/j.gexplo.2008.11.007](https://doi.org/10.1016/j.gexplo.2008.11.007)

PRESENTATIONS (ORAL AND POSTER)

- 2012** Fault-related dolomite episodes in the Lower Cretaceous platform carbonates (Karrantza Valley, NW Spain): Various possible sources of dolomitising fluids. GEOFLUIDS 2012, Rueil Malmaison, France. 06th – 08th June 2012.
- 2011** Hydrothermal dolomites along faults/fractures in the Aptian-Albian platform carbonates (Karrantza valley, N.W Spain): Petrographic/geochemical studies and their numerical modelling. 13^{ème} Congrès français de sédimentologie, Dijon, France. 14th – 16th Novembre 2011.

- 2011** Hydrothermal dolomites along faults/fractures in the Aptian-Albian platform carbonates (Karrantza valley, N.W Spain): Nature and origin of dolomites and dolomitising fluids. 14th Bathurst meeting of carbonate sedimentologists, Bristol, U.K. 11th – 14th July 2011.
- 2010** Fracture-controlled high temperature dolomites in the Cretaceous Ramales Formation (Cantabrian mountain chain, NW Spain): implications for reservoir characterization. AAPG Annual convention and Exhibition 2010, New Orleans, USA.
- 2010** Hydrothermal Dolomites Along Faults/Fractures in the Aptian–Albian Platform Carbonates (Karrantza Valley, N.W Spain): Petrographic and geochemical results. GEO-2010, Manama, Bahrain.
- 2009** Facies analyses and depositional environments of Mianwali and Tredian Formations in the vicinity of Nammal gorge, Western Salt Range, Pakistan. 12e Congrès Français de Sedimentologie, Renne 2009. Livre des résumés. Publ. ASF. n° 64, 362p.
- 2009** Fault –controlled hydrothermal dolomite bodies in the Aptian-Albian carbonates (Karrantza Valley, NW Spain): Numerical modelling, nature of dolomites and dolomitizing fluids. Abstract IAS Annual meeting, Alghero – Italy, 20-23rd September, 2009.
- 2008** Hydrothermal dolomite fronts in Cretaceous platform carbonates (Cantabrian Mountain Chain, Northern Spain): Early results of petrographic, geochemical and petrophysical studies. Hydrothermalisme en domaine continental, 22nd -24th October, 2008. Aix-les-Bains, France.
- 2008** Petrographic and geochemical study of hydrothermal dolomitisation fronts (Cantabrian mountains, Spain): Implications on reservoir characterization and diagenetic modelling. AAPG Annual Technical conference, 21-23 April, 2008, San Antonio, U.S.A.
- 2007** Sedimentology and geochemical studies of hydrothermal dolomite fronts in the Ranero area, Northern Spain. 11^{eme} Congrès de Sédimentologie –Caen 2007, Publ. ASF, n° 57, 358 p.
- 2003** Formation of Stromatolites in the Cambrian Abbottabad Formation, Azad Kashmir, Pakistan. Petroleum Symposium II, May 24-25, Peshawar, Pakistan.

MEMBERSHIPS

- International Association of Sedimentologists (IAS).
- Geological Society of America (GSA).
- Geological Society of France (SGF).
- American Association of Petroleum Geoscientists (AAPG).

TRAINING

- 2011 IFP Training** course on "Petroleum Geology and Petroleum Engineering" in IFP-SCHOOL, Rueil-Malmaison (France) from 04th July – 8th July.
- 2010 IFP Training** Field course on "Basin analyses and petroleum exploration" in Devon – Dorset (U.K) from 13th – 18th Sep. 2010.
- 2009** Course on "Reactive transport modelling using ARXIM-COORES software" in IFP from 30th Nov. - 3rd Dec. 2009.
- 2009** Course in "Petroleum Engineering". Katholieke Universiteit Leuven, Belgium.
- 2008** Basics in hydrogeochemistry, IFP Rueil Malmaison.
- 2000** Short Course on Seismic Stratigraphy, Islamabad.
- 1999** Training Course on Well-logging and Seismic data interpretation, Peshawar.
- 1999** ESRI - Arcinfo GIS Advanced course