

PROFESSOR MOHAMED KHALIFA MASOUD KHALIFA
B.Sc., PG. DipSci, M.Sc., Ph.D.



PERSONAL DATA:

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WEBSITES & INFORMATION:

- ✓ *Scopus by El-Sevier link:*
<https://www.scopus.com/authid/detail.uri?authorId=26040728000>
- ✓ *Google Scholar link:*
<https://scholar.google.com/citations?hl=en&user=c5rQQ-YAAAAJ>
- ✓ *ORCID link:* <https://orcid.org/0000-0003-3149-347X>
- ✓ *ResearchGate:* <https://www.researchgate.net/profile/M-Khalifa>

RESEARCH INTERESTS:

My research interests include the following:

- Stratigraphic facies analysis for sequence stratigraphic interpretation.
- Sequence stratigraphic modelling through integration of outcrop, well-log and seismic data.
- Facies analysis, depositional environment and diagenetic features of stratigraphic unit.
- Litho-chrostratigraphic analysis and regional correlation to understand the sedimentary basin architecture.
- Seismic sequence stratigraphic analysis and development of sedimentary basins.
- Sequence stratigraphic distribution of reservoir facies variations within stratigraphic succession.
- Sequence stratigraphic analysis and palaeogeographic significance of sedimentary basins.
- Tectono-sedimentary architecture of basins.

JOURNAL EDITOR:

- **Associate Editor, *Arabian Journal of Geosciences* under the Springer a Journal - International Publisher, 2023 - Present.**
- **Associate Editor, *Academic Journal of Science and Technology (AJST)* is a peer-reviewed international journal published by the Libyan Academy for postgraduate studies - Libya, 2023 - Present.**

- **Advisory Board**, *University of Zawia Journal of Natural Sciences (UZJNS)* under the **Directory of Online Libyan Journals (DOLJ)**, 2025-Present.
- **Guest Editor**, *Special Issue Proposal to the Journal of Marine and Petroleum Geology* under the Elsevier a journal - **International Publisher**.

PEER REVIEWER FOR INTERNATIONAL JOURNALS:

I am a reviewer for a number of international journals including:

- Marine and Petroleum Geology.
- Natural Resources Research.
- The Australian Journal of Earth Sciences.
- Arabian Journal of Geosciences.
- Journal of African Earth Sciences.
- Energy Geoscience.
- Journal of Petroleum Exploration and Production Technology.
- Geoenergy Science and Engineering.
- Society of Exploration Geophysicists.
- Journal of Interpretation.

PROFESSIONAL MEMBERSHIPS:

- American Association of Petroleum Geologists (AAPG).
- Petroleum Exploration Society of Australia (PESA).
- Science Society of Libya.

TRAINING:

- **Course in Generic Induction to Coal Mining (Core), 2008 - Lennon Training, Emerald - Australia.** Course include: (1) Conduct Local Risk Assessment, (2) Apply Initial Response First Aid and (3) Prepare to work in a Surface Coal Mining Environment).
- **Certificate of Completion (Internship Assessment Certification Training Program), 2011 - University Technology PETRONAS, Malaysia.**
- **Certificate of Attendance (E-Learning Moodle 2.0), 2011 - University Technology PETRONAS, Malaysia.**

COMPUTER SKILLS:

Using software applications for petroleum geology, subsurface geology, stratigraphic, sedimentology, sequence stratigraphy analysis and tectonic models:

- **Petro, Kingdom and Landmark** (2/3D seismic interpretation, petrophysical analysis, stratigraphic model, generation of synthetic seismograms, and production of maps).
- **RockWare** (log correlation, Interpretation of sedimentological, petrophysical analysis and stratigraphic/structural models).
- **LogCheck** (Geophysical logs interpretation and geophysical well log section correlation).
- **Surfer** (contour mapping for subsurface/surface geology and 3D surface diagrams).
- **CorelDraw** (free-hand drawing program useful for presentation of seismic sections and wireline log cross-sections).

- *Photoshop* (presentation of core photographs and other illustrations).
- *Experienced* in the use of Microsoft office packages.

SELECTED PUBLICATIONS IN INTERNATIONAL JOURNALS:

- 1) **Khalifa M. Kh.** and Mills K.J., **2022**. Predicting sequence stratigraphic architecture and its implication for hydrocarbon reservoir potential of the uppermost Silurian through Lower Devonian Winduck Interval, central Darling Basin of western New South Wales, SE Australia. **Marine and Petroleum Geology**, v. **142**, doi:10.1016/j.marpetgeo.2022.105725.
- 2) Ben Mahmud H. K, **Khalifa M. Kh.**, Shafiq M. and Giwelli A., **2022**. Experimental investigation of the influence of carbonated water on sandstone and carbonate rock properties. **Petroleum Research**, doi:10.1016/j.ptlrs.2022.10.007.
- 1) **Khalifa M. Kh.**, Bottrill R. S. and Targhi M. H., **2021**. Correlation and sequence stratigraphic interpretation of the lithostratigraphic Snake Cave Interval: Implications for hydrocarbon reservoir prospectivity between the southeast Blantyre and northwestern Neckarboo Sub-basins, Darling Basin, southeastern Australia. **Marine and Petroleum Geology**, V. **132**, doi:10.1016/j.marpetgeo.2021.105203.
- 2) **Khalifa M. Kh.** and Bottrill R. S., **2021**. Lithostratigraphy of the upper Lower Devonian through the upper Middle Devonian succession of the southeast Darling Basin, western New South Wales, southeastern Australia: a case study of sedimentological features and significance of depositional facies. **Arabian Journal of Geosciences**, doi:10.1007/s12517-021-06803-2.
- 3) Olga I. Shelukhina, Mohamed A. K. El-Ghali, Iftikhar Ahmed Abbasi, Junaid Ahmed Khan, **Mohamed M. Kh.**, Sankaran Rajendran and Abdulrazak Al-Sayigh., **2021**. Facies architecture and depositional model for a fine-grained hybrid-energy delta: An example from the Upper Cambrian to Lower Ordovician Barik Formation, Central Oman. **Geological Journal**, doi:10.1002/gj.4157.
- 3) **Khalifa M. Kh.** and Mills K.J., **2020**. Correlation of the lithostratigraphic facies relationships and depositional environments of the uppermost Silurian through Lower Devonian strata across the central Darling Basin, western New South Wales, SE Australia. **The Australian Journal of Earth Sciences**, v. **68**, p. **515-531**, doi:10.1080/08120099.2021.1825528.
- 4) **Khalifa M. Kh.** and Mills K.J., **2020**. Facies analysis relationships depositional environment for the subsurface stratigraphy of the Snake Cave Interval in the Bancannia Trough, western Darling Basin, New South Wales, SE Australia. **Marine and Petroleum Geology**, v. **115**, doi:10.1016/j.marpetgeo.2020.104279.
- 4) **Khalifa M. Kh.**, Mills K.J. and Ben Mahmud H. K, **2019**. Facies analysis, depositional environment interpretation and lithostratigraphic architecture to predict reservoir potential of the Devonian Ravendale Interval in the Bancannia Trough, western Darling Basin, SE Australia. **International Journal of Earth Sciences**, v. **108**, p. **2247-2270**, doi:10.1007/s00531-019-01760-4.
- 5) **Khalifa M. Kh.**, Mills K.J. and Khaled M. Al-Kahtany, **2017**. Tectonostratigraphic analysis of the Upper Cambrian - Devonian sedimentary succession in the central Darling Basin, SE Australia: an integrated interpretation of seismic, gravity and well data. **Journal of Petroleum Geology**, v. **40**, p. **391-412**, doi:10.1111/jpg.12686.

- 5) **Khalifa M. Kh.**, Mills K.J. and Osama H., **2016**. Seismic stratigraphic interpretation of megasequence and sequence framework in the Upper Cambrian through Devonian formations in the central part of the Darling Basin, western New South Wales, Australia. **Marine and Petroleum Geology**, v. **77**, p. **668-692**, doi:10.1016/j.marpetgeo.2016.04.015.
- 6) **Khalifa M. Kh.**, Brian G. Jones and Walid M. Mah., **2016**. Lithostratigraphic and sequence stratigraphic architecture of the Winduck Interval, central Darling Basin, Australia, based on integration of wireline logs, cores and cuttings data. **The International Journal of Earth Sciences**, v. **105**, p. **1109-1126**, doi:10.1007/s00531-015-1241-8.
- 7) **Khalifa M. Kh.**, Brian G. Jones and Osama H., **2015**. Sedimentary facies analysis and palaeogeographic significance of the latest Silurian to Early Devonian Winduck Interval in the Darling Basin, western New South Wales, Australia. **The Australian Journal of Earth Sciences**, v. **62**, p. **307-330**, doi:10.1080/08120099.2015.1020449.
- 8) **Khalifa M. Kh.**, Walid M. Mah., Ali Mangi Alta'ee and Mills K.J., **2015**. Sequence stratigraphic analysis of fluvial deposits using facies characterization and wireline log correlation: case of the late Early-early Middle Devonian Snake Cave Interval, Darling Basin, Australia. **Arabian Journal of Geosciences**, v. **8**, p. **9733-9752**, doi:10.1007/s12517-015-1872-x.
- 9) **Khalifa M. Kh.**, and Mills K.J., **2014**. Seismic stratigraphic analysis and structural development of an interpreted Upper Cambrian to Middle Ordovician sequence the NW Blantyre Sub-basin, Darling Basin (western New South Wales, Australia). **Journal of Petroleum Geology**, v. **37**, p. **163-182**, doi:10.1111/jpg.12576.
- 10) **Khalifa M. Kh.**, and Ward C.R., **2010**. Sedimentological analysis of the subsurface Mulga Downs Group in the central part of the Darling Basin, western New South Wales. **The Australian Journal of Earth Sciences**, v. **57**, p. **111-139**, doi: 10.1080/08120090903416237.
- 11) **Khalifa M. Kh.**, **2010**. Correlation of the Devonian formations in the Blantyre Sub-basin, New South Wales with the Adavale Basin, Queensland. **Journal and Proceedings of the Royal Society of NSW**, v. **143 (1)**, p. **19-33**, ISSN 0035-9173/10/020019-15.
- 12) **Khalifa M. Kh.**, and Abed A.M., **2010**. Lithostratigraphy and microfacies analysis of the Ajlun Group (Cenomanian to Turonian) in the Wadi Sirhan Basin, Southern Jordan. **Jordan Journal of Earth and Environmental Sciences**, v. **3**, p. **1-16**, ISSN 1995-668.
- 13) **Khalifa M. Kh.**, **2009**. Geological and geophysical evaluation and interpretation of the Blantyre Sub-basin, Darling Basin, New South Wales, Australia (abstract). **Journal and Proceedings of the Royal Society of NSW**, v. **142 (2)**, p. **46-47**.
- 14) **Khalifa M. Kh.**, and Ward C.R., **2009**. Stratigraphic correlation of the Devonian sequence in the Blantyre Sub-basin, Darling Basin, New South Wales. **The Australian Journal of Earth Sciences**, v. **56**, p. **111-133**, doi:10.1080/08120090802546985.
- 15) **Khalifa M. Kh.**, **2009**. Tectonostratigraphic evolution of the Blantyre Sub-basin and adjacent regions, New South Wales, based on integration of seismic, gravity and well data. **Journal and Proceedings of the Royal Society of NSW**, v. **142 (1)**, p. **29-56**, ISSN 0035-9173/09/010029-28.

- 16) **Khalifa M. Kh., 2006.** Seismic sedimentological analysis and lithofacies framework of the Mulga Downs Group in the Blantyre Sub-basin, Darling Basin. **The Petroleum Exploration Society of Australia News, no. 85, p. 59-63.**
- 17) **Khalifa M. Kh., 2006.** High-resolution subsurface stratigraphy of the Blantyre Sub-basin using seismic data and well logs. **The Petroleum Exploration Society of Australia News, no. 84, p. 102-110.**
- 18) **Khalifa M. Kh., Mills K.J., and Daghdugh, A.B., 2024.** Tectono-stratigraphic evolution of the Wadi Sirhan Basin, SE Jordan: Implications for the hydrocarbon prospectivity. **(in press in Journal of African Earth Sciences).**
- 19) **Khalifa M. Kh., Mills K.J., Hezam Al-Awah and Wael S. Matter, 2024.** Lithofacies and microfacies architecture and its implications for sequence stratigraphic development of the Upper Cretaceous Ajlun Group carbonates in the surface and subsurface of the Wadi Sirhan Basin, SE Jordan **(in press in Journal of Asian Earth Sciences).**

SELECTED INTERNATIONAL CONFERENCES AND PROFESSIONAL ACTIVITIES:

- 1) **Khalifa M. Kh., and Bottrill R. S., 2024.** Sequence stratigraphic analysis and reservoir potential of the Mount Daubeny Formation, western Darling Basin, western New South Wales of Australia. **(in press in Mediterranean Geosciences Union 2024) by Scopus-Indexed Proceedings - paper number 1096.**
- 2) **Khalifa M. Kh., and Mills K.J., 2024.** A sequence stratigraphic model for the Middle Jurassic Hutton Sandstone in the Naccowlah Block, Eromanga Basin of northeast Australia. **(in press in Mediterranean Geosciences Union 2024) by Scopus-Indexed Proceedings - paper number 1097.**
- 3) **Khalifa M. Kh., Bottrill R. S., and Muhammad Irfan, 2024.** Sedimentary facies analysis and sequence-stratigraphic control on reservoir architecture: A case study of the Birkhead Formation in the Naccowlah Block, Eromanga Basin, northeastern Australia. **(in press in Mediterranean Geosciences Union 2024) by Scopus-Indexed Proceedings - paper number 1098.**
- 4) **Khalifa M. Kh., Mills K.J., and Mohamed A. K. El-Ghali, 2024.** Sedimentological features and significance of stratigraphy to predict reservoir potential of the Winduck Interval across the southeast Darling Basin of western New South Wales, southeastern Australia. **(in press in Mediterranean Geosciences Union 2024) by Scopus-Indexed Proceedings - paper number 1099.**
- 5) **Khalifa M. Kh., Mills K.J., and Mohamed A.K. El-Ghali, 2023.** Seismic sequence stratigraphic subdivision of the Snake Cave Interval within the Darling Basin, southeastern Australia (southern Pondie Range, Blantyre and western Neckarboo Sub-basins) using integration of seismic and well data. **1st International Conference on Earth Sciences and Energy Transition ICESET-2023, February 06-10, 2023 - Abstract for oral presentation (Abstract Code: ICESET-2023-103-10).**

- 6) **Khalifa M. Kh.**, and Mills K.J., **2023**. A review of lithostratigraphic significance relationships and facies distribution across the Darling Basin, southeastern Australia: Concepts and examples from hydrocarbon reservoir potential of the uppermost Silurian through Devonian sandstone formations. **1st International Conference on Earth Sciences and Energy Transition ICESET-2023, February 06-10, 2023 - Abstract for oral presentation (Abstract Code: ICESET-23-61-10)**.
- 7) **Khalifa M. Kh.**, Soltanb, M.A., and Bottrill R.S., **2023**. Evaluating reservoir architecture of the Middle Devonian sandstone strata across the central-north Al-Wafa field of Ghadames Basin, north-western Libya: Integrated stratigraphic facies relationships and depositional environments. **1st International Conference on Earth Sciences and Energy Transition ICESET-2023, February 06-10, 2023 - Abstract for oral presentation (Abstract Code: ICESET-23-21-10)**.
- 8) Beyosta Achharya, Hisham Ben Mahmud and **Khalifa M. Kh.**, **2023**. Evaluation of reservoir characteristics and well-logging of the Naccowlah Block of Coper-Eromanga Basin, Australia. **1st International Conference on Earth Sciences and Energy Transition ICESET-2023, February 06-10, 2023 - Abstract for oral presentation (Abstract Code: ICESET-23-52-10)**.
- 9) Symon Sesu Raj Sagaiaraja, Hisham Ben Mahmud and **Khalifa M. Kh.**, **2023**. Assessment of the petrophysical properties to improve reservoir characterization in the Eromanga Basin of southwestern Queensland, Australia. **1st International Conference on Earth Sciences and Energy Transition ICESET-2023, February 06-10, 2023 - Abstract for oral presentation (Abstract Code: ICESET-23-65-10)**.
- 10) **Khalifa M. Kh.**, Walid Mohamed Mahmud, Ali Mangi Alta'ee and Mills K.J. **2013**. High-resolution wireline logs correlation for sequence stratigraphic analysis of the lower to Middle Devonian sequence, Darling Basin, Australia. **International Oil and Gas Symposium and Exhibition (IOGSE-2013), October 9-11, 2013 - Expanded Abstracts**.
- 11) Muhammad Irf., Muhammad A.R., Wan Ismail W.Y., and **Khalifa M. Kh.**, **2013**. Sedimentological analysis for the subsurface Jurassic sequence of Central Eromanga Basin, Australia. **International Oil and Gas Symposium and Exhibition (IOGSE-2013), October 9-11, 2013**.
- 12) **Khalifa M. Kh.** and Ali Mangi Alta'ee. **2011**. An integrated petrophysical analysis to evaluate sequence stratigraphy of the Winduck Interval in the Neckarboo Sub-basin, Darling Basin, NSW. **Paper SPE 148108, 23th SPE Asia Pacific Oil & Gas Conference and Exhibition (APOGCE), Jakarta, Indonesia, 20-22 September 2011, Paper Number: SPE-148108-MS. <https://doi.org/10.2118/148108-MS>**.
- 13) **Khalifa M. Kh.** and Abed A.M., **2010**. Middle Cambrian-Upper Cretaceous tectonostratigraphic evolution of the Wadi Sirhan Basin, southeast Jordan. **Kuala Lumpur, Malaysia 29 November - 1 December 2010, the Society of Exploration Geophysicists WORKSHOP Hydrocarbon Reservoir Imaging and Characterization - Issues and Challenges in Southeast Asia - Oral poster presentation**.

- 14) **Khalifa M. Kh., 2010.** Evaluation of stratigraphy and facies of the Ravendale Interval in the central part of the Darling Basin, NSW (northern Blantyre and southern Pondie Range Sub-basins) based on seismic Data and well logs. **Kuala Lumpur, Malaysia 29 November - 1 December 2010, the Society of Exploration Geophysicists WORKSHOP Hydrocarbon Reservoir Imaging and Characterization - Issues and Challenges in Southeast Asia - Oral poster presentation.**
- 15) **Khalifa M. Kh., and Mills K.J., 2010.** Seismic sequence stratigraphy and facies architecture of the Scopes Range Formation in the Blantyre Sub-basin, Darling Basin, NSW. The 21th Geophysical Conference and Exhibition, Darling Harbour Sydney, **Australia 22 - 26 August 2010, the Australian Society of Exploration Geophysicists (ASEG) - the Petroleum Exploration Society of Australia (PESA), Expanded Abstracts no. 5, p. 1-14, doi:10.1071/ASEG2010ab005.**
- 16) **Khalifa M. Kh., 2004.** Geological and geophysical evaluation and interpretation of the Blantyre Sub-basin, Darling Basin, New South Wales, Australia. The 17th Geophysical Conference and Exhibition, Darling Harbour Sydney, **Australia 15-19 August 2004, the Australian Society of Exploration Geophysicists (ASEG) - the Petroleum Exploration Society of Australia (PESA) - Oral poster presentation no. 35.**