

CURRICULUM VITAE

Name: Mohammed J. Al-Marri

Position: Associate Professor
Department of Chemical Engineering
College of Engineering
Qatar University



Date: January 2024

Personal Information

Mailing Address: m.almarri@qu.edu.qa

Research Profile:

Google Scholar: <https://goo.gl/LIZ6jJ>

Research Gate: <https://goo.gl/LrQ6aG>

Scopus: <https://goo.gl/pvmfU1>

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Education

PhD: Chemical Engineering, University of Leeds, 2009, UK

Thesis Topic: Modelling the solution crystallization of L-Glutamic acid as prepared via reactive and cooling crystallization.

M.Sc.: Chemical Engineering, Texas A & M University, 2000, USA.

M.Sc. Dissertation Topic: Analysis of a direct methane conversion to high molecular weight hydrocarbons.

B.Sc.: Chemical Engineering, Qatar University, 1995, Qatar.

Undergraduate Research Topic: Removal of organic pollutants from Water by adsorption on polymeric resins.

Continuing Education (Workshops, Short Courses, etc.):

- ABET Program Assessment Workshop, 2012, Qatar.
- Middle Manager Development Programme, 2013, Qatar.
- BHR group pre-symposium workshop, 2014, Qatar.
- Emergency First Aid including CPR & AED, 2014, Qatar.

Employment History

Date	Description
08/06/2017-Present	Associate Professor in the Department of Chemical Engineering, Qatar University, Qatar
01/08/2013-04/10/2017	Director of the Gas Processing Center, Qatar University, Qatar.

28/2/2012-31/07/2013	Manager of Industrial Relations Office, College of Engineering, Qatar University, Qatar.
13/12/2009–07/06/2017	Assistant Professor in the Department of Chemical Engineering, Qatar University, Qatar.
01/06/2000–12/12/2009	Lecturer, Chemical Engineering Department, Qatar University, Qatar.
01/02/1996–31/05/2000	Teaching Assistant in the Chemical Engineering Department, Qatar University, Qatar.

Awards and Recognition

- Academic Standing honours during B.S. studies 1991, 1992-93, 1993, 1994-1995.
- A Scholarship by SPE (society of petroleum engineers) during B.S. studies, 1995.
- Received a shield from English Language institute for outstanding full time student, Texas A & M University, 1997.
- Received High Annual Performance Evaluation Scores (Exceeded Expectations) at QU, 2012-Present.

Research Interests

My research areas are

- Gas Processing: CO₂ capture technologies, determination of the kinetics of CO₂ reaction with amines and amino acids solvents.
- Modelling and Simulation of chemical processes: simulations with emphasis on molecular simulation as applied to Carbon Capture and Solar energy.
- Catalysis: synthesis and characterization of new catalysts, evaluation of catalyst activity and reaction kinetics.

Teaching

With respect to teaching, I have observed that encouraging and fostering a supportive learning environment are key elements for students' success. Passive lecturing typically results in poor student learning experience. On the other hand, promoting and encouraging student-centered teaching approaches helps students learn and retain the taught materials. One example of such student-centered learning approaches is allowing students to solve problems independently rather than furnish solutions without allowing them to engage in critical thinking about the solutions.

Undergraduate Courses:

Course Code	Title of Course	Credit-Hours	# of Semesters Taught
CHME 201	Introduction to Chemical Engineering I	3	4

CHME 202	Introduction to Chemical Engineering II	3	4
CHME 313	Mass Transfer I	3	1
CHME 399	Summer Training	3	2
CHME 421	Plant Design I	3	10
CHME 422	Plant Design II	3	10
CHME 495	Graduation Project I	1	2
CHME 496	Graduation Project II	3	2
CHME 314	Chemical Reaction Engineering	3	8
GENG 300	Numerical Methods	3	15

Graduate Courses:

EEMP 595	Master Thesis I	1	2
EEMP 596	Master Thesis II	3	2
CHME 899	PhD Thesis	8	1

Project Supervision:

Undergraduate projects

No	Academic Session	Number of students	Project Title
1.	2011-2012	4	✓ Hydrocarbons Vapour-Liquid Equilibrium
2.	2015-2016	4	✓ Experimental determination of the kinetics of CO ₂ reaction with a mixture of amine solvents using stopped flow technique

Leadership & Services

In terms of my service contributions, I have actively participated in various departmental, college, and university-level committees. Additionally, I have held several administrative positions and served on committees beyond Qatar University. Specifically, I served as the Industrial Relations Office Manager at the College of Engineering, Qatar University, during the period 2012-2013. Subsequently, I assumed the role of Director of the Gas Processing Center (GPC) from 2013 to 2017. Additionally, I am currently serving as the Head of the Chemical Engineering Department.

Committees (at Qatar University):

University:

Committee Name	Standing/Ad hoc	Applicant Role	Dates
Strategic Plan Committee KPA1, Teaching and Learning	Standing	Member	2010-2012
Strategic Plan Committee KPA2, Research	Standing	Member	2013-2015

Procurement Committee	Standing	Member	2016-2017
Qatar University & Qatar Shell Joint Steering Committee	Ad hoc	Member	2013-2014
Executive Committee for Environmental Studies Center (ESC)	Ad hoc	Member	2013-2014
Intellectual Property Advisory Committee	Standing	Chair	2016-2017
Intellectual Property Advisory Committee	Standing	member	2017-2018
Intellectual Property Advisory Committee	Standing	Chair	2018-2019

College of Engineering:

Committee Name	Standing/Ad hoc	Applicant Role	Dates
5 th International Gas Processing Symposium organizing committee	Standing	Chair	2016
4 th International Gas Processing Symposium organizing committee	Standing	Chair	2014
Out-reach Committee	Standing	Chair	2014
Research Committee	Standing	Member	2014-2017
KPA 3 Working Group	Ad hoc	Member	2013-2014
Department Center Integration Committee	Ad hoc	Member	2016

Department:

Committee Name	Standing/Ad hoc	Applicant Role	Dates
Students Activities Committee, CHME	Standing	Member	2011-2013
Recruitment Committee, CHME	Standing	Member	2012-2013
Research Committee, CHME	Standing	Member	2013-Present
GPC strategic planning committee	Ad hoc	Member	2013- 2017

GPC annual report committee	Ad hoc	Chair	2013- 2017
GPC Budgeting committee	Ad hoc	Chair	2013- 2017
GPC Equipment committee	Ad hoc	Chair	2013- 2017
GPC- Non Academic Review committee	Ad hoc	Chair	2013-2014

Committees (Outside Qatar University):

Committee Name	Standing/ Ad hoc	Applicant Role	Dates	Remarks
Qatar National Committee of World Petroleum Council (WPC)	Standing	Member	2010-2015	WPC
Doha Carbon and Energy Forum (DCEF) Technical Committee	Standing	Member	2013	QF

International Professional Service and Societies' Memberships (Editorials' Board, Etc..):

AIChE

Regional/Local Professional Service:

NA

Scholarly Achievements

My goals are to conduct research in areas of great interest to Qatar and the region and to develop a new knowledge in areas of my expertise for applied research.

Patents:

- P1** Aboubakr M. ABDULLAH, Vincenzino VIVACQUA, **Mohammed J. AL-MARRI**, Barry AZZOPARDI, Bijan KERMANI, Ali HASSANPOUR, Buddhika HEWAKANDAMBY, Mojtaba Ghadiri, Compact electrocoalescer with conical frustum electrodes, Patent No.: US 10,786,757 B2.
- P2** **Al-Marri, M. J.**, Saad, M. A., M. M. Khader, Sardar, A., Abdelmoneim, A. G., Nickel catalyst for dry and low temperature steam reforming of methane (MSR), Pub. No.: US 2019 / 0099744 A1.
- P3** Khader, M. M., **Al-Marri, M. J.**, Sardar, A., Abdelmoneim, A. G., Kumar, A., Robust Catalysts for Low Temperature Methane Oxidation. Pub. No.: US 2018 / 0369787 A1.
- P4** Renju Zacharia, Mohammed J. Al-Marri, Nanoporous cerium oxide with interconnected pores for catalysis and a cost-effective method of preparing thereof, Patent No.: US 10,639,621 B2.

Refereed Journal Papers:

- JP01.** M.J. Al Marri, E.M. Fayyad, A. Hassan, M.M. Khader, Mechanism of GaAs surface sulfidation, *International Journal of Electrochemical Science* **2014**, 9 (12), 7287-7299. (IF=1.33) , <http://www.electrochemsci.org/papers/vol9/91207287.pdf>.
- JP02.** M.J. Al-Marri, M.M. Khader, E.P. Giannelis, M.F. Shibl, Optimization of selection of chain amine scrubbers for CO₂ capture, *Journal of molecular modeling* **2014**, 20 (12), 2518. (IF=1.438), doi.org/10.1007/s00894-014-2518-8.
- JP03.** S. Judd, H. Qiblawey, M.J. Al-Marri, C. Clarkin, S. Watson, A. Ahmed, S. Bach, The size and performance of offshore produced water oil-removal technologies for reinjection, *Separation and Purification Technology* **2014**, 134, 241-246. (IF=3.299), doi.org/10.1016/j.seppur.2014.07.037.
- JP04.** H.S. Almarouf, M.S. Nasser, M.J. Al-Marri, M. Khraisheh, S.A. Onaizi, Demulsification of stable emulsions from produced water using a phase separator with inclined parallel arc coalescing plates, *Journal of Petroleum Science and Engineering* **2015**, 135, 16-21. (IF=1.655), doi.org/10.1016/j.petrol.2015.08.005.
- JP05.** M.J. Al-Marri, M.M. Khader, M. Tawfik, G. Qi, E.P. Giannelis, CO₂ sorption kinetics of scaled-up polyethylenimine-functionalized mesoporous silica sorbent, *Langmuir* **2015**, 31 (12), 3569-3576. (IF=3.993), doi.org/10.1021/acs.langmuir.5b00189.
- JP06.** M.J. Al-Marri, M.S. Masoud, A.M.G. Nassar, M.M. Zagho, M.M. Khader, Synthesis and characterization of poly(vinyl alcohol): Cloisite® 20A nanocomposites, *Journal of Vinyl and Additive Technology* **2015**. (IF=1.55), <http://onlinelibrary.wiley.com/doi/10.1002/vnl.21496/pdf>.
- JP07.** M. Atilhan, S. Aparicio, S. Ejaz, J. Zhou, M.J. Al-Marri, J.J. Holste, K.R. Hall, Thermodynamic characterization of deepwater natural gas mixtures with heavy hydrocarbon content at high pressures, *Journal of Chemical Thermodynamics* **2015**, 82, 134-142. (IF=2.196), doi.org/10.1016/j.jct.2014.10.018.
- JP08.** A. Benamor, M.J. Al-Marri, A. Hawari, Experimental determination of carbamate formation and amine protonation constants in 3-amino-1-propanol-CO₂-H₂O system and their temperature dependency, *International Journal of Greenhouse Gas Control* **2015**, 37, 237-242. (IF=4.064),.
- JP09.** Z. Liang, W. Rongwong, H. Liu, K. Fu, H. Gao, F. Cao, R. Zhang, T. Sema, A. Henni, K. Sumon, D. Nath, D. Gelowitz, W. Srisang, C. Saiwan, A. Benamor, M.J. Al-Marri, H. Shi, T. Supap, C. Chan, Q. Zhou, M. Abu-Zahra, M. Wilson, W. Olson, R. Idem, P. Tontiwachwuthikul, Recent progress and new developments in post-combustion carbon-capture technology with amine based solvents,

International Journal of Greenhouse Gas Control, **2015**, 40, 26-54. (IF=4.064) ,
[dx.doi.org/10.1016/j.ijggc.2015.06.017](https://doi.org/10.1016/j.ijggc.2015.06.017)

- JP10.** S. Mhatre, V. Vivacqua, M. Ghadiri, A.M. Abdullah, **M.J. Al-Marri**, A. Hassanpour, B. Hewakandamby, B. Azzopardi, B. Kermani, Electrostatic phase separation: A review, *Chemical Engineering Research and Design* **2015**, 96, 177-195. (IF=2.525), doi.org/10.1016/j.cherd.2015.02.012.
- JP11.** V. Vivacqua, S. Mhatre, M. Ghadiri, A.M. Abdullah, A. Hassanpour, **M.J. Al-Marri**, B. Azzopardi, B. Hewakandamby, B. Kermani, Electrocoalescence of water drop trains in oil under constant and pulsatile electric fields, *Chemical Engineering Research and Design* **2015**, 104, 658-668. (IF=2.525), doi.org/10.1016/j.cherd.2015.10.006.
- JP12.** S. Ali, **M.J. Al-Marri**, A. G. Abdelmoneim, A. Kumar and M. M. Khader, *International Journal of Hydrogen Energy* **2016**, 41 (48), 22876-22885. (IF=3.582)
- JP13.** A. Ashok, A. Kumar, R.R. Bhosale, M.A.H. Saleh, U.K. Ghosh, **M.J. Al-Marri**, F.A. Almomani, M.M. Khader, F. Tarlochan, Cobalt oxide nanopowder synthesis using cellulose assisted combustion technique, *Ceramics International* **2016**. (IF=2.758), doi.org/10.1016/j.ceramint.2016.05.035.
- JP14.** A. Benamor, **M.J. Al-Marri**, M. Khraisheh, M.S. Nasser, P. Tontiwachwuthikul, Reaction kinetics of carbon dioxide in aqueous blends of N-methyldiethanolamine and glycine using the stopped flow technique, *Journal of Natural Gas Science and Engineering* **2016**, 33, 186-195. (IF=2.045), doi.org/10.1016/j.jngse.2016.04.063.
- JP15.** J. Chen, D. Liu, **M.J. Al-Marri**, L. Nuuttila, H. Lehtivuori and K. Zheng, Photo-stability of CsPbBr₃ perovskite quantum dots for optoelectronic application, *Science China Materials*, **2016**, 59 (9), 719-727.
- JP16.** Ihsanullah, A. Abbas, A.M. Al-Amer, T. Laoui, **M.J. Al-Marri**, M.S. Nasser, M. Khraisheh, M.A. Atieh, Heavy metal removal from aqueous solution by advanced carbon nanotubes: Critical review of adsorption applications, *Separation and Purification Technology* **2016**, 157, 141-161. (IF=3.299), doi.org/10.1016/j.seppur.2015.11.039.
- JP17.** C. Junsheng, Ž. Karel, A. Mohamed, **M.J. Al-Marri**, Z. Kaibo, P. Tõnu, Surface plasmon inhibited photo-luminescence activation in CdSe/ZnS core-shell quantum dots, *Journal of Physics: Condensed Matter* **2016**, 28 (25), 254001. (IF=2.649), <http://iopscience.iop.org/article/10.1088/0953-8984/28/25/254001/meta>.
- JP18.** A. Kayvani Fard, T. Rhadfi, G. McKay, **M.J. Al-Marri**, A. Abdala, N. Hilal, M.A. Hussien, Enhancing oil removal from water using ferric oxide nanoparticles doped carbon nanotubes adsorbents, *Chemical Engineering Journal* **2016**, 293, 90-101. (IF=5.310), doi.org/10.1016/j.cej.2016.02.040.
- JP19.** A. Kumar, A. Ashok, R.R. Bhosale, M.A.H. Saleh, F.A. Almomani, **M.J. Al-Marri**, M.M. Khader, F. Tarlochan, In situ DRIFTS Studies on Cu, Ni and CuNi catalysts

for Ethanol Decomposition Reaction, *Catalysis Letters* **2016**, 146 (4), 778-787. (IF=2.307), doi.org/10.1007/s10562-016-1706-9.

- JP20.** A. Kumar, R.R. Bhosale, S.S. Malik, A.E. Abusrafa, M.A.H. Saleh, U.K. Ghosh, **M.J. Al-Marri**, F.A. Almomani, M.M. Khader, I.M. Abu-Reesh, Thermodynamic investigation of hydrogen enrichment and carbon suppression using chemical additives in ethanol dry reforming, *International Journal of Hydrogen Energy* **2016**, 41 (34), 15149-15157. (IF=3.205), doi.org/10.1016/j.ijhydene.2016.06.157.
- JP21.** N. Lenngren, M.A. Abdellah, K. Zheng, **M.J. Al-Marri**, D. Zigmantas, K. Zidek, T. Pullerits, Hot electron and hole dynamics in thiol-capped CdSe quantum dots revealed by 2D electronic spectroscopy, *Physical Chemistry Chemical Physics* **2016**, 18 (37), 26199-26204. (IF=4.449), [doi. 10.1039/C6CP04190F](https://doi.org/10.1039/C6CP04190F).
- JP22.** A.D. Manasrah, U.A. Al-Mubaiyedh, T. Laui, R. Ben-Mansour, **M.J. Al-Marri**, I.W. Almanassra, A. Abdala, M.A. Atieh, Heat transfer enhancement of nanofluids using iron nanoparticles decorated carbon nanotubes, *Applied Thermal Engineering* **2016**, 107, 1008-1018. (IF=3.043), doi.org/10.1016/j.applthermaleng.2016.07.026.
- JP23.** M.S. Nasser, **M.J. Al-Marri**, A. Benamor, S.A. Onaizi, M. Khraisheh, M.A. Saad, Flocculation and viscoelastic behavior of industrial papermaking suspensions, *Korean Journal of Chemical Engineering* **2016**, 33 (2), 448-455. (IF=1.166), doi.org/10.1007/s11814-015-0167-y.
- JP24.** M.S. Nasser, S.A. Onaizi, I.A. Hussein, M.A. Saad, **M.J. Al-Marri**, A. Benamor, Intercalation of ionic liquids into bentonite: Swelling and rheological behaviors, Colloids and Surfaces A: *Physicochemical and Engineering Aspects* **2016**, 507, 141-151. (IF=2.760), doi.org/10.1016/j.colsurfa.2016.08.006.
- JP25.** C. Nwaoha, C. Saiwan, T. Supap, R. Idem, P. Tontiwachwuthikul, W. Rongwong, **M.J. Al-Marri**, A. Benamor, Carbon dioxide (CO₂) capture performance of aqueous tri-solvent blends containing 2-amino-2-methyl-1-propanol (AMP) and methyldiethanolamine (MDEA) promoted by diethylenetriamine (DETA), *International Journal of Greenhouse Gas Control* **2016**, 53, 292-304. (IF=4.064), doi.org/10.1016/j.ijggc.2016.08.012.
- JP26.** C. Nwaoha, C. Saiwan, P. Tontiwachwuthikul, T. Supap, W. Rongwong, R. Idem, **M.J. Al-Marri**, A. Benamor, Carbon dioxide (CO₂) capture: Absorption-desorption capabilities of 2-amino-2-methyl-1-propanol (AMP), piperazine (PZ) and monoethanolamine (MEA) tri-solvent blends, *Journal of Natural Gas Science and Engineering* **2016**, 33, 742-750. (IF=2.045), doi.org/10.1016/j.jngse.2016.06.002.
- JP27.** M.A. Saad, **M.J. Al-Marri**, A.L. Yaumi, I.A. Hussein, R. Shawabkeh, An Experimental and Kinetic Study of the Sorption of Carbon Dioxide onto Amine-Treated Oil Fly Ash, *Journal of Chemistry* **2016**. (IF=0.996), doi.org/10.1155/2016/6021798.
- JP28.** J. Schulze, M.F. Shibl, **M.J. Al-Marri**, O. Kühn, Multi-layer multi-configuration time-dependent Hartree (ML-MCTDH) approach to the correlated exciton-

vibrational dynamics in the FMO complex, *The Journal of Chemical Physics* **2016**, 144 (18), 185101. (IF=1.758) , doi.org/10.1063/1.4948563.

- JP29.** S. Singto, T. Supap, R. Idem, P. Tontiwachwuthikul, S. Tantayanon, **M.J. Al-Marri**, A. Benamor, Synthesis of new amines for enhanced carbon dioxide (CO₂) capture performance: The effect of chemical structure on equilibrium solubility, cyclic capacity, kinetics of absorption and regeneration, and heats of absorption and regeneration, *Separation and Purification Technology* **2016**, 167, 97-107. (IF=3.299), doi.org/10.1016/j.seppur.2016.05.002.
- JP30.** V. Vivacqua, M. Ghadiri, A.M. Abdullah, A. Hassanpour, **M.J. Al-Marri**, B. Azzopardi, B. Hewakandamby, B. Kermani, Analysis of partial electrocoalescence by Level-Set and finite element methods, *Chemical Engineering Research and Design* **2016**, 114, 180-189. (IF=2.525), doi.org/10.1016/j.cherd.2016.08.019.
- JP31.** V. Vivacqua, M. Ghadiri, A.M. Abdullah, A. Hassanpour, **M.J. Al-Marri**, B. Azzopardi, B. Hewakandamby, B. Kermani, Linear dynamics modelling of droplet deformation in a pulsatile electric field, *Chemical Engineering Research and Design* **2016**, 114, 162-170. (IF=2.525), doi.org/10.1016/j.cherd.2016.08.015.
- JP32.** Zheng, K.; Abdellah, M.; Zhu, Q.; Kong, Q.; Jennings, G.; Kurtz, C. A.; Messing, M. E.; Niu, Y.; Gosztola, D. J.; **Al-Marri, M. J.**; Zhang, X.; Pullerits, T.; Canton, S. E., Direct Experimental Evidence for Photoinduced Strong-Coupling Polarons in Organolead Halide Perovskite Nanoparticles. *The Journal of Physical Chemistry Letters* **2016**, 7 (22), 4535-4539.
- JP33.** Zheng, K.; Žídek, K.; Abdellah, M.; Chen, J.; Chábera, P.; Zhang, W.; **Al-Marri, M. J.**; Pullerits, T., High Excitation Intensity Opens a New Trapping Channel in Organic–Inorganic Hybrid Perovskite Nanoparticles. *ACS Energy Letters* **2016**, 1 (6), 1154-1161.
- JP34.** K. Zheng, K. Žídek, M. Abdellah, M.E. Messing, **M.J. Al-Marri**, T. Pullerits, Trap States and Their Dynamics in Organometal Halide Perovskite Nanoparticles and Bulk Crystals, *Journal of Physical Chemistry C* **2016**, 120, 3077-3084. (IF=4.509), doi.org/10.1021/acs.jpcc.6b00612.
- JP35.** N. Zhong, H. Liu, X. Luo, **M.J. Al-Marri**, A. Benamor, R. Idem, P. Tontiwachwuthikul, Z. Liang, Reaction Kinetics of Carbon Dioxide (CO₂) with Diethylenetriamine and 1-Amino-2-propanol in Nonaqueous Solvents Using Stopped-Flow Technique, *Industrial & Engineering Chemistry Research* **2016**, 55 (27), 7307-7317. (IF=2.567), doi.org/10.1021/acs.iecr.6b00981.
- JP36.** T. Zsrai, A.K. Al-Jaml, H. Qiblawey, **M.J. Al-Marri**, A. Ahmed, S. Bach, S. Watson, S. Judd, Ceramic membrane filtration of produced water: Impact of membrane module, *Separation and Purification Technology* **2016**, 165, 214-221. (IF=3.299), doi.org/10.1016/j.seppur.2016.04.001.
- JP37.** Ali, S.; Zabidi, N. A. M.; **Al-Marri, M. J.**; Khader, M. M., Effect of the support on physicochemical properties and catalytic performance of cobalt based nano-catalysts in Fischer-Tropsch reaction. *Materials Today Communications* **2017**, 10 (Supplement C), 67-71.

- JP38.** **Al-Marri, M. J.**; Kutti, Y. O.; Khraisheh, M.; Kumar, A.; Khader, M. M., Kinetics of CO₂ Adsorption/Desorption of Polyethyleneimine-Mesoporous Silica. *Chemical Engineering & Technology* **2017**, *40* (10), 1802-1809.
- JP39.** Bokareva, O. S.; Shibl, M. F.; **Al-Marri, M. J.**; Pullerits, T.; Kühn, O., Optimized Long-Range Corrected Density Functionals for Electronic and Optical Properties of Bare and Ligated CdSe Quantum Dots. *Journal of Chemical Theory and Computation* **2017**, *13* (1), 110-116.
- JP40.** Chen, J.; Židek, K.; Chábera, P.; Liu, D.; Cheng, P.; Nuuttila, L.; **Al-Marri, M. J.**; Lehtivuori, H.; Messing, M. E.; Han, K.; Zheng, K.; Pullerits, T., Size- and Wavelength-Dependent Two-Photon Absorption Cross-Section of CsPbBr₃ Perovskite Quantum Dots. *The Journal of Physical Chemistry Letters* **2017**, *8* (10), 2316-2321.
- JP41.** Hossain, M. A.; Al-Gaashani, R.; Hamoudi, H.; **Al Marri, M. J.**; Hussein, I. A.; Belaidi, A.; Merzougui, B. A.; Alharbi, F. H.; Tabet, N., Controlled growth of Cu₂O thin films by electrodeposition approach. *Materials Science in Semiconductor Processing* **2017**, *63* (Supplement C), 203-211.
- JP42.** Liu, H.; Idem, R.; PaitoonTontiwachwuthikul; Liang, Z.; Rongwong, W.; **Al-Marri, M. J.**; Benamor, A., Analysis of CO₂ Solubility and Absorption Heat into Aqueous 1-Diethylamino-2-propanol. *Energy Procedia* **2017**, *114* (Supplement C), 873-879.
- JP43.** Mahmud, N.; Benamor, A.; Nasser, M. S.; **Al-Marri, M. J.**; Qiblawey, H.; Tontiwachwuthikul, P., Reaction kinetics of carbon dioxide with aqueous solutions of L-Arginine, Glycine & Sarcosine using the stopped flow technique. *International Journal of Greenhouse Gas Control* **2017**, *63* (Supplement C), 47-58.
- JP44.** Matin, M. A.; Kumar, A.; Bhosale, R. R.; Saleh Saad, M. A. H.; Almomani, F. A.; **Al-Marri, M. J.**, PdZn nanoparticle electrocatalysts synthesized by solution combustion for methanol oxidation reaction in an alkaline medium. *RSC Advances* **2017**, *7* (68), 42709-42717.
- JP45.** Mohamed, F. S.; Jan, S.; **Mohammed, M. J.**; Oliver, K., Multilayer-MCTDH approach to the energy transfer dynamics in the LH2 antenna complex. *Journal of Physics B: Atomic, Molecular and Optical Physics* **2017**, *50* (18), 184001.
- JP46.** Moussa, D. T.; El-Naas, M. H.; Nasser, M.; **Al-Marri, M. J.**, A comprehensive review of electrocoagulation for water treatment: Potentials and challenges. *Journal of Environmental Management* **2017**, *186* (Part 1), 24-41.
- JP47.** N, S. B.; Nemec, H.; Zidek, K.; Abdellah, M.; **Al-Marri, M. J.**; Chabera, P.; Ponseca, C.; Zheng, K.; Pullerits, T., Time-resolved terahertz spectroscopy reveals the influence of charged sensitizing quantum dots on the electron dynamics in ZnO. *Physical Chemistry Chemical Physics* **2017**, *19* (8), 6006-6012.
- JP48.** Nwaoha, C.; Idem, R.; Supap, T.; Saiwan, C.; Tontiwachwuthikul, P.; Rongwong, W.; **Al-Marri, M. J.**; Benamor, A., Heat duty, heat of absorption, sensible heat

and heat of vaporization of 2-Amino-2-Methyl-1-Propanol (AMP), Piperazine (PZ) and Monoethanolamine (MEA) tri-solvent blend for carbon dioxide (CO₂) capture. *Chemical Engineering Science* **2017**, 170 (Supplement C), 26-35.

- JP49.** Nwaoha, C.; Saiwan, C.; Supap, T.; Idem, R.; Tontiwachwuthikul, P.; **Al-Marri, M. J.**; Benamor, A., Regeneration Energy Analysis of Aqueous Tri-Solvent Blends Containing 2-Amino-2-Methyl-1-Propanol (AMP), Methyldiethanolamine (MDEA) and Diethylenetriamine (DETA) for Carbon Dioxide (CO₂) Capture. *Energy Procedia* **2017**, 114 (Supplement C), 2039-2046.
- JP50.** Nwaoha, C.; Supap, T.; Idem, R.; Saiwan, C.; Tontiwachwuthikul, P.; **Al-Marri, M. J.**; Benamor, A., Advancement and new perspectives of using formulated reactive amine blends for post-combustion carbon dioxide (CO₂) capture technologies. *Petroleum* **2017**, 3 (1), 10-36.
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- CP02** **Mohammed J. Al-Marri**, T Mahmud, and K. J. Roberts. Wall Temperature Effect and Scale-up on Cooling Crystallization, 8th World Congress of Chemical Engineering, **2009**.
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- CP04** Sardar Ali, Moustafa.M. Zhago, **Mohammed J. Al-Marri**, Yara I. Arafat, Mahmoud M. Khader, "Development of Nickel-based Catalysts for Methane Steam Reforming", the 4th International Gas Processing Symposium, October 26–27, Doha, Qatar, **2014**.
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- CP06 Mohammed J. Al-Marri**, Sardar Ali, Ahmad Gamal, Yara Arafat and Mahmoud Khader, “Development of Methane Oxidation Catalysts”, 198th ACS Meeting, San Francisco, Ca , USA, 14 -18 Augut **2014**.
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- CP09 Abdelbaki Benamor and Mohammed J. Al-Marri**, “Studying The Promoting Effect of Glycine on The Kinetics of Carbon Dioxide Reaction with Methyldiethanolamine Using Stopped Flow Technique”, International Conference on Engineering and Natural Science (ICENS), Kuala Lumpur, Malaysia, 14 March **2015**.
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- CP11 Abdelbaki Benamor, Mohammed J. Al-Marri**, Wichitpan Rongwong and Paitoon Tontiwachwuthikul, kinetics of co₂ reaction with solutions of N-methyldiethanolamine mixed with selected amino acids using stopped flow technique, 2015 AIChE Annual Meeting, November 8-13, Salt Lake City, Utah, USA, **2015**.
- CP12 Abdelbaki Benamor, Mohammed J. Al-Marri** and Wichitpan Rongwong, Reaction kinetics of some important alkanolamines with carbon dioxide in aqueous solutions using stopped flow technique, 2015 AIChE Annual Meeting, November 8-13, Salt Lake City, Utah, USA, **2015**.
- CP13 Al-Marri, Mohammed J.**, Umer Mehmood, Ibnelwaleed A. Hussein, “Enhancement of power conversion efficiency of dyesensitized solar cells using nanocomposites of carbonaceous materials with TiO₂”, European Advanced Materials Congress, Stockholm, Sweden, August 23-25, **2016**.
- CP14 Benamor, A.**, Ahmed Gomaa Talkhan and **Mohammed J. Al-Marri**, Corrosion Study of Carbon Steel in CO₂ Loaded Amine-Amino Acid Solutions- Case of N-Methyldiethanolamine and Arginine, Global Conference on Engineering & Technology, Kuala Lumpur, June 1-2, **2016**.
- CP15 Mahmoud M. Khader, Sardar Ali, Mohammed J. Al-Marri**, Ahmed G. Abdelmoneim “Methane oxidation Pd/CeO₂ robust catalyst”, The 5th International Gas Processing Symposium, Doha, Nov 27-29, **2016**.
- CP16 Sardar Ali, Mohammed J. Al-Marri**, Ahmed G. Abdelmoneim, Mahmoud M. Khader “Effects of Shell Composition on the Catalytic Performances of Pd-Based Core-Shell,

Methane-Oxidation Catalysts” The 5th International Gas Processing Symposium, Doha, Nov 27-29, **2016**.

- CP17** Abdelbaki Benamor, M. N. Nasser, **Mohammed J. Al-Marri**, Kinetics of Carbon Dioxide Reaction with Aqueous Solution of N-Methyldiethanolamine in the Presence Alkaline Amino Acid Salts Using Stopped Flow Technique. 2016 AIChE Annual Meeting, November 13-18, San Francisco, USA, **2016**.
- CP18** Abdelbaki Benamor, Ahmed Goma Talkhan and **Mohammed J. Al-Marri**, Experimental solubility and modelling of CO₂ absorption into aqueous blends of Amine-amino acid system, The 5th International Gas Processing Symposium, Nov 27-28, Doha Qatar, **2016**.
- CP19** M. M. Khader, **Mohammed J. Al-Marri**, Sardar Ali, Ahmed G. Abdelmoneim, Anand Kumar, Mohd Ali H. Saleh, Ahmed Soliman, "Catalytic evaluation of Ni-based nano-catalysts in dry reformation of methane," IEEE 17th International Conference on Nanotechnology (IEEE-NANO), Pittsburgh, PA, **2017**, pp. 1051-1055, doi: 10.1109/NANO.2017.8117488.
- CP20** Chikezie Nwaoha, Paitoon Tontiwachwuthikul, Raphael Idem, **Mohammed J. Al-Marri**, Abdelbaki Benamor, Pilot Plant Study of Novel AMP–Based Amine Solvent Blend for CO₂ Capture: Rich Amine Loading, Absorption Rate, Absorber Overall Volumetric Mass Transfer Coefficient and Amine Cost, 14th Greenhouse Gas Control Technologies Conference, Melbourne, Australia, 21-26 October **2018** (GHGT-14)
- CP21** Jan Schulze, Mohamed F. Shibl, **Mohammed J. Al-Marri**, Oliver Kuhn, High-dimensional exciton-vibrational wave-packet dynamics in the FMO complex. influence of site-specific spectral densities, EPJ Web Conf. 205 10010, XXI International Conference on Ultrafast Phenomena, Hamburg, Germany, **2018**.
- CP22** G. Carchini, I. Hussein, **M. J. Al-Marri**, S. Aparicio, A Theoretical Study of Gas Adsorption on Calcite for CO₂ Enhanced Natural Gas Recovery, Third EAGE WIPIC Workshop: Reservoir Management in Carbonates, Doha, Qatar, Nov **2019**.
- CP23**

Technical Reports:

Reviewed and approved technical reports for industry

Non-Technical Reports:

NA

Books and/or Book Chapters:

Mohammed J. Al-Marri, and Fadwa T. Eljack. Advances in Gas Processing, Proceeding of the 4th International Gas Processing Symposium, 2014.

Benamor, A., Nasser, M., **Al-Marri, M.**, Encyclopedia of Sustainable Technologies by Abraham, M.: Gas Processing Technology-Treatment and Utilization, 2017.

Renju Zacharia, Muftah H El-Naas, **Mohammed J. Al-Marri**, Water Management, CRC Press, 2018.

Conference/Workshop/Forum Attendance and Presentations:

Doha Carbon and Energy Forum (DCEF) Technical Committee member, 2013

Stream host for The Gulf Intelligence Qatar Industry Water Security Forum, Stream 3 desalination, 2016.

4th and 5th International Gas Processing Symposium organizing committee chair, 2014 and 2016.

Funded Projects (Title, Agency, Amount, Period, Role):

Project number: NPRP 5 - 366 - 2 - 143

Project title: De-watering of water-in-oil emulsions by electro-coalescence and development of compact electro coalescers

Investigator(s): Prof. Ghadiri (University of Leeds) (LPI), Dr Aboubakr Ali (QU) (Co-LPI) Dr. **Mohammed J. Al-Marri** (Qatar University) (Co-PI) and many other collaborators.

Budget: \$1,028,122.00

Duration: April 2013-September 2016.

Project number: NPRP 7 - 227 - 1 - 034

Project title: Learning from Nature: Coherence for Novel Solar Applications

Investigator(s): Prof. Oliver Kuehn (University of Rostock) (LPI) and Dr. **Mohammed J. Al-Marri** (Qatar University) (Co-LPI)

Budget: \$899,923.20

Duration: January 2015-January 2018.

Industrial Project Sponsored by Maersk Qatar

Project title: Advanced Produced Water Treatment

Investigator(s): Prof. Simon Judd (Qatar University) (LPI), Prof. Hazem Qiblawey (Qatar University) (PI), Dr. **Mohammed J. Al-Marri** (Qatar University) (PI)

Budget: ~\$1000,000.00

Duration: December 2013-June 2016.

Industrial Project Sponsored by Shell

Project title: CO₂ Conversion to Value added Chemical

Investigator(s): Prof. Mahmud Khader (Qatar University) (LPI), and Dr. **Mohammed J. Al-Marri** (Qatar University) (PI)

Budget: ~\$300,000.00

Duration: February 2018-February 2021.

Project number: NPRP 10 - 0125 - 170235

Project title: Enhancing Natural Gas Recovery by CO₂ Injection and Storage in Qatar's Reservoirs: From Molecular modeling to Core-Scale Flooding.

Investigator(s): Dr. **Mohammed J. Al-Marri** (Qatar University) (LPI) and Prof. Ibnelwaleed Hussein (PI)

Budget: \$541,690.00

Duration: April 2018-April 2021.

Project number: NPRP 12S - 0130 - 190023

Project title: Determining the OGIP for the Qatari Shale Reservoirs: Pore to Core Scale Investigation

Investigator(s): Dr. Mustafa Nasser (LPI), Dr. **Mohammed J. Al-Marri** (Qatar University) (PI)

Budget: \$598,824.00

Duration: April 2020-April 2023.