# CURRICULUM VITAE

Name: Mohammed J. Al-Marri Position: Associate Professor Department of Chemical Engineering College of Engineering Qatar University



Date: 25<sup>th</sup> September, 2022

### **Personal Information**

Mailing Address: <u>m.almarri@qu.edu.qa</u> Research Profile: Google Scholar: <u>https://goo.gl/LlZ6jJ</u> Research Gate: <u>https://goo.gl/LrQ6aG</u> Scopus: <u>https://goo.gl/pvmfU1</u> ORCID: 0000-0002-9223-487X

#### 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.

#### 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: CO<sub>2</sub> capture technologies, determination of the kinetics of CO<sub>2</sub> 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

My main teaching objective is to contribute to providing a good quality education and learning skills to my students. I have developed several new course materials for different courses such as Introduction to Chemical Engineering I, Numerical Methods, Chemical Reaction Engineering and Mass Transfer I. I always prepare the course material to fulfil the course objectives with as many applications as possible.

#### **Undergraduate Courses:**

Course Code	Title of Course	Credit- Hours	# of Semesters Taught
CHME 201	Introduction to Chemical Engineering I	3	> 5
CHME 202	Introduction to Chemical Engineering II	3	> 5
CHME 313	Mass Transfer I	3	1
CHME 399	Summer Training	3	2
CHME 421	Plant Design I	3	> 5
CHME 422	Plant Design II	3	> 5
CHME 495	Graduation Project I	1	2
CHME 496	Graduation Project II	3	2

CHME 314	Chemical Reaction	3	> 5
	Engineering		
GENG 300	Numerical Methods	3	> 10

#### Graduate Courses:

NA

### **Project Supervision:**

### Undergraduate projects

No	Academic Session	Number of students		Project Title
1. 2.	2011-2012 2015-2016	4 4	✓ ✓	Hydrocarbons Vapour-Liquid Equilibrium Experimental determination of the kinetics of CO2 reaction with a mixture of amine solvents using stopped flow technique

#### Services

I served as the Industrial Relations Office Manager at the College of Engineering, Qatar University during the period 2012-2013. I then moved to lead the Gas Processing Center (GPC) as the Director 2013-2017. This is in addition to serving as a faculty member in the Chemical Engineering department. In my capacity as a faculty member, researcher and director of the GPC, I was involved in different research projects either as a Lead or as co-Investigator. I also supervised a postdoctoral fellow and undergraduate students. As a Director of the GPC, I managed different research projects with a total of more than US\$ 6 million. The sources of funding for these projects are diverse and include QNRF funding, client funded industrial projects, and university funding. In addition, I raised funds for GASNA Competition, International Gas Processing Symposium and industrial research projects. Recently, I introduced a new Research Scholarship for sponsoring researchers by the industry. As a Director of the Center, I closely coordinate all financial matters for the Center in addition to the different research projects. In my capacity as the GPC Director, I was involved in developing research contracts with the different funding companies including the newly introduced Research Scholarship. As a Director of the GPC, I manage a total of about 30 staff, which includes full time researchers, Professors, Assistant Professors, Post-Doctoral Fellows, Research Assistants, PhD and MSc students and technicians. During my time as a Director, the personnel research capacity of the centre has grown from 3 in 2013 to the current number of 30, in addition to acquiring of major pieces of research equipment that are worth more than US\$ 7 million. I was also involved in working with the GPC Technical Advisory Committee (TAC), which is composed of the key Gas players in Qatar such as Qatar Petroleum, Qatar Gas, Shell, ExxonMobil, TOTAL, QAFCO, QAPCO, ORYX, ConocoPhillips, Dolphin, Ministry of Municipality and Environment, etc.. Part pf my work is to organize regular visits to the industry to promote research interactions and discuss technical issues that face the gas industry. I have also led the organization of two International Gas Processing Symposiums. As for reserch work, I have developed new materials for gas conversion with my research team collegues. We filed for patents for these discoveries, and considering its

commercialization. I am finalizing a unique research project on Solar energy that study Light harvesting. Recently, I was promoted to be an associated professor in chemical engineering and the first Qatari to hold this academic rank.

# Committees (at Qatar University):

University:			
Committee Name	Standing/Ad hoc	Applicant Role	Dates
Strategic Plan Committee KPA1, Teaching and	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:		A 1º /	D (
Committee Name	Standing/Ad hoc	Role	Dates
5 <sup>th</sup> International Gas Processing Symposium organizing committee	Standing	Chair	2016
4 <sup>th</sup> 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	Ad hoc	Member	2016
Integration			
Committee			

## Department:

Committee Name	Standing/ Ad hoc	Applicant Role	Dates
Students Activities	Standing	Member	2011-2013
Committee, CHME			
Recruitment	Standing	Member	2012-2013
Committee, CHME			
Research Committee,	Standing	Member	2013-Present
CHME			
GPC strategic	Ad hoc	Member	2013- 2017
planning committee			
GPC annual report	Ad hoc	Chair	2013- 2017
committee			
GPC Budgeting	Ad hoc	Chair	2013- 2017
committee			
GPC Equipment	Ad hoc	Chair	2013- 2017
committee			
GPC- Non Academic	Ad hoc	Chair	2013-2014
Review committee			

# Committees (Outside Qatar University):

Committee Name	Standing/ Ad hoc	Applicant Role	Dates	Remarks
Qatar National Committee of World Petroleum Council	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..):

NA

# **Regional/Local Professional Service:**

NA

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), <u>http://www.electrochemsci.org/papers/vol9/91207287.pdf</u>.
- 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), <u>doi.org/10.1007/s00894-014-2518-8</u>.
- 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), <u>doi.org/10.1016/j.seppur.2014.07.037</u>.
- 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<sup>®</sup> 20A

nanocomposites, *Journal of Vinyl and Additive Technology* **2015**. (IF=1.55), <u>http://onlinelibrary.wiley.com/doi/10.1002/vnl.21496/pdf.</u>

- 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.ijgc.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), <u>doi.org/10.1016/j.cherd.2015.02.012</u>.
- 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 Nmethyldiethanolamine 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, Photostability 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), <u>http://iopscience.iop.org/article/10.1088/0953-8984/28/25/254001/meta.</u>
- 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), <u>doi.org/10.1016/j.ijhydene.2016.06.157</u>.
- 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), <u>doi: 10.1039/C6CP04190F.</u>
- 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), <u>doi.org/10.1016/j.colsurfa.2016.08.006</u>.
- 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), <u>doi.org/10.1016/j.ijggc.2016.08.012</u>.

- JP26. C. Nwaoha, C. Saiwan, P. Tontiwachwuthikul, T. Supap, W. Rongwong, R. Idem, M.J. Al-Marri, A. Benamor, Carbon dioxide (CO2) capture: Absorptiondesorption 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 excitonvibrational dynamics in the FMO complex, *The Journal of Chemical Physics* 2016, 144 (18), 185101. (IF=1.758), <u>doi.org/10.1063/1.4948563</u>.
- 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. Zsirai, 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), <u>doi.org/10.1016/j.seppur.2016.04.001</u>.
- 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 nanocatalysts in Fischer-Tropsch reaction. *Materials Today Communications* 2017, 10 (Supplement C), 67-71.
- JP38. Al-Marri, M. J.; Kuti, 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.; Žídek, 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.
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**Refereed Conference Proceedings:** 

- CP01 Mohammed J. Al-Marri, T Mahmud, and K. J. Roberts. Influence of process conditions on L-glutamic acid precipitation in a semi-batch stirred tank crystalliser, 17th International Symposium of Industrial Crystallization, Netherlands, 2008.
- 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.
- **CP03 Mohammed J. Al-Marri**, T Mahmud, and K. J. Roberts. Influence of Process Conditions on L-Glutamic Acid Reactive Crystallization, 8th World Congress of Chemical Engineering, **2009**
- 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.
- CP05 Sardar Ali, Mohammed J. Al-Marri, Ahmed Gamal Abdul Monem, YaraIbrahim Arafat, , Mahmoud M. Khader, "The Development of Core-Shell, Methane-Oxidation Catalysts", the 4th International Gas Processing Symposium, October 26–27, Doha, Qatar, 2014.
- 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.
- CP07 Mohammed J. Al-Marri, M. M. Khader, M. Tawfik, G. Qi and E.P. Giannelis. "Enhancing CO2 adsorption on Polyethyleneimine - mesoporous silica by treatment with a nonioinc surfactant", the 4th International Gas Processing Symposium, October 26–27, Doha, Qatar, 2014.
- **CP08 Mohammed J. Al-Marri**, S. Ali, M.M. Zhago, M. M. Khader, "Synthesis, Characterization and Catalytic Performance of Supported Nickel Nanoparticles in Methane Steam Reforming", NanoTech France **2015**.
- **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**.
- CP10 Abdelbaki Benamor and Mohammed J. Al-Marri, "Reactive Absorption of Carbon Dioxide into Piperazine Activated Diethanolamine Solutions", International Conference on Chemical, Industry and Science (ICCIS 2015). February 27-28, Kuching, Malaysia, 2015.
- CP11 Abdelbaki Benamor, Mohammed J. Al-Marri, Wichitpan Rongwong and Paitoon Tontiwachwuthikul, kinetics of co2 reaction with solutions of Nmethyldiethanolamine 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 Gomaa 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 nanocatalysts 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, Highdimensional 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.

### **Technical Reports:**

Reviewed and approved technical reports for industry

### Non-Technical Reports:

NA

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### Books and/or Book Chapters:

**Mohammed J. Al-Marri**, and Fadwa T. Eljack. Advances in Gas Processing, Proceeding of the 4<sup>th</sup> 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.

4<sup>th</sup> and 5<sup>th</sup> 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 (Univesity 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.