

GPC Publications 2016 - 2017

4.3 Publications (2016 and 2017 statistics)

4.3.1 Patent Applications 2016

1. Aditya C.S. Ratcha, Amit Verma, Reza Nekovei, Mahmoud M. Khader, Patent entitled "HETEROJUNCTION SCHOTTKY GATE BIPOLAR TRANSISTOR" . Patent Application No. 15/149,979. Filed in May 9, 2016. (2015-071).
2. Mahmoud M Khader, Mohammed J Al-Marri, Sardar Ali, Ahmed Gamal Abdelmoneim, Anand Kumar "Palladium Catalyst For Oxidation Of Methane And Method Of Preparation And Use Thereof" Patent Application No. PCT/IB2016/057080, Filed in 23 November 2016.
3. Mohammed J. Al-Marri, Mohammed Ali H. Salah Saad, Mahmoud M. Khader, Sardar Ali, Ahmed Gamal Abdelmoneim "NICKEL CATALYST FOR LOW TEMPERATURE METHANE STEAM REFORMATION" Accepted for filling by QU after QF revision. The final draft "written in the legal form" was sent to QF on 29th of September 2016. QF Ref# 432743.10054.

4.3.2 Books and Book Chapters 2016

El-Naas, M. H., Maisa El Gamal and Hussein A. Mossa, Microbial Degradation of Chlorophenols, in Microbe-induced Degradation of Pesticides, Edited by: S. N. Singh, Springer (2016)

4.3.3 Journal Publications 2016

1. Abu-Jdayil, B., Nasser, M. S., M. Ghannam, (2016) 'The Modification of Rheological Properties of Bentonite-Water Dispersions with Cationic and Anionic Surfactants' International Journal of Chemical Engineering and Applications, 7, 75-80.
2. Adel O. Al-Amodi, Usamah A. Al-Mubaiyedh, Abdullah S. Sultan, Muhammad Shahzad Kamal, Ibbelwaleed A. Hussein, "Evaluation of Fluorinated Surfactants for Enhanced Oil Recovery in carbonate reservoirs under HTHS conditions", Canadian Journal of Chemical Engineering, 94 (3), 454 – 460.
3. Al Ketife, A. M. D., Judd, S., & Znad, H., A mathematical model for carbon fixation and nutrient removal by an algal photobioreactor. Chemical Engineering Science, 153, 354-362.
4. Ali, s., Almarri, m. j., Abdelmoneim, a. g., Kumar, A., Khader, M. M. "Catalytic evaluation of nickel nanoparticles in methane steam reforming published online in the Int. J. Hyd. Energy <http://dx.doi.org/10.1016/j.ijhydene.2016.08.200>.
5. Ang, W. L., Abdul Wahab Mohammad, A. Benamor, and N. Hilal. "Hybrid coagulation–NF membrane processes for brackish water treatment: effect of pH and salt/calcium concentration." Desalination 390 (2016): 25-32.
6. Ashok, A., Kumar, A., Bhosale, R. R., Saleh, M. A. H., Ghosh, U. K. , Al-Marri, M. J., Almomani, F. A., Khader, M. M., Tarlochan, F. "Cobalt oxide nanopowder synthesis using cellulose assisted combustion technique", Ceramics Inter. 42(2016)12771–12777.

7. Autin, O., Hai, F., Judd, S., McAdam, E.J. (2016) Investigating the significance of coagulation kinetics on maintaining membrane permeability in an MBR following reactive coagulant dosing, *J. Membrane Sci.* 516 64–73.
8. Benamor A., Al-Marri M.J., Khraisheh M., Nasser, M.S, Tontiwachwuthikul P. (2016) '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*, 33,186-95.
9. Ba-Abbad, Muneer M., Mohd S. Takriff, Abdelbaki Benamor, and Abdul Wahab Mohammad. "Synthesis and characterisation of Co²⁺-incorporated ZnO nanoparticles prepared through a sol-gel method." *Advanced Powder Technology* 27, no. 6 (2016): 2439-2447.
10. Broom, D. P., C. J. Webb, C.J, K. E. Hurst, P. A. Parilla, T. Gennett, C. M. Brown, R. Zacharia, E. Tylianakis, E. Klontzas, G. E. Froudakis, T. A. Steriotis, P. N. Trikalitis, D. L. Anton, B. Hardy, D. Tamburello, C. Corgnale, B. A. van Hassel, D. Cossement, R. Chahine, M. Hirscher, Outlook and challenges for hydrogen storage in nanoporous materials, *Applied Physics A* 122(2016) 1-21.
11. Durette, D., P. Bénard, R. Zacharia, R. Chahine, Investigation of the hydrogen adsorbed density inside the pores of MOF-5 from path integral grand canonical Monte Carlo at supercritical and subcritical temperature, *Science Bulletin* 61 (2016) 594-6000.
12. El-Naas , M. H., A. F. Mohammad, M. I. Suleiman, M. Al Musharfy, A. H. Al-Marzouqi, Statistical analysis and Optimization of a Process for CO₂ Capture, *International Journal of Chemical and Molecular Engineering*, Vol. 10, No. 4 (2016) 382-389.
13. El-Naas, M. H., R. Surkatti, S. Al-Zuhair, Petroleum refinery wastewater treatment: A pilot scale study, pilot scale study, *Journal of Water Process Engineering*. (2016), <http://dx.doi.org/10.1016/j.jwpe.2016.10.005>.
14. El-Naas, M. H., Z. M. Ismail, M. H. Al-Marzouqi, Correlating the physical solubility of CO₂ in several amines to the concentrations of amine groups, *Journal of Natural Gas Science and Engineering*, 34 (2016) 841–848.
15. Golea, D., Jarvis, P., and Judd, S.J. (2016). Pilot scale assessment of THM precursor rejection from upland waters using spiral-wound membranes, *Sep. Sci. Technol.* 51(8), 1380-1388.
16. Hasan, S., M. H. El-Naas, "Optimization of a Combined Approach for the Treatment of Carbide Slurry and Capture of CO₂," *American Journal of Engineering and Applied Sciences*. 9 (2016) 449–457.
17. Hassan, W. M. I., Anantram, M. P., Nekovei, R., Khader , M. M., Verma, A. "Optical absorption spectra of pristine and doped silicon nanostructures: A TDDFT study" *Solar Energy* 126 (2016) 44–52.
18. Ihsanullah, Aamir Abbas, Adnan M. Al-Amer, Tahar Laoui, Mohamed Almarri, Nasser, M.S., Majeda Khraisheh, Muataz Ali Atieh (2016) 'Heavy metal removal from aqueous solution by advanced carbon nanotubes: critical review of adsorption applications' *Separation and Purification Technology*, 157, 141-161.
19. Izhar A. Malik, Usamah A. Al-Mubaiyedh, Abdullah S. Sultan, Muhammad Shahzad Kamal, Ibelwaleed A. Hussein, "Evaluation of SP systems containing ethoxylated and propoxylated surfactants for EOR applications". *Canadian Journal of Chemical Engineering*, DOI: 10.1002/cjce.22541.
20. Judd, S. J. The status of industrial and municipal effluent treatment with membrane bioreactor technology. *Chemical Engineering Journal*, 305 37-45.

21. Junsheng, Ž. Karel, A. Mohamed, M.J. Al-Marri, Z. Kaibo, P. Tõnu, Surface plasmon inhibited photoluminescence activation in CdSe/ZnS core-shell quantum dots, *Journal of Physics: Condensed Matter*, 28, 254001
22. 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*, 293, 90-101.
23. Keeley, J., Jarvis, P., Smith, A.D., and Judd, S.J. (2016). Coagulant recovery and reuse for drinking water treatment, *Water Res.* 88 502-509.
24. Keeley, J., Smith, A.D., Judd, S.J., and Jarvis, P. (2016). Acidified and ultrafiltered recovered coagulants from water treatment works sludge for removal of phosphorus from wastewater. *Water Res*, 88 380-388 (IF 5.991, Q1 ENGINEERING, CHEMICAL).
25. Kumar, A., Bhosale, R. R., Malik, S. S., Abusrafa, A. E., Saleh, M. A. H., Ghosh, U. K., Al-Marri, M. J., Almomani, F. A., Khader, M. M., Abu-Reesh, I. M., "Thermodynamic investigation of hydrogen enrichment and carbon suppression using chemical additives in ethanol dry reforming", *Int. J. Hyd. Energy*, 41, (34) (2016)15149–15157.
26. Kumar, A., Ashok, A., Bhosale, R. R., Saleh, M. A. H., Almomani, F. A., Al-Marri, M. J., Khader, M. M. "In situ DRIFTS Studies on Cu, Ni and CuNi catalysts for Ethanol Dehydrogenation Reaction" *Catal Lett* (2016) 146:778–787.
27. 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*, 18, 26199-26204.
28. 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*, 107, 1008-1018.
29. Metcalf, D., Rockey, C., Jefferson, B., Judd, S., and Jarvis, P. (2016). Ceramic membrane fouling by raw waters: impact of pretreatment, *Sep. Purif. Technol.*, 163 173-180 (IF 3.299).
30. Mohammad, A. F., M. H. El-Naas, M. I. Suleiman, and M. Al Musharfy, "Optimization of a Solvay-Based Approach for CO₂ Capture," *International Journal of Chemical Engineering and Applications*, 7 (2016) 230-234
31. Mohammed Ali Saad, Mohammed J. Al-Marri, Ali Yaumi, Ibelwaleed A. Hussein, Reyad Shawabkeh, "An Experimental and Kinetic Study of the Sorption of Carbon Dioxide onto Amine-treated Oil Fly Ash", *Journal of Chemistry*, Vol 2016, Article ID 6021798, <http://dx.doi.org/10.1155/2016/6021798>
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33. Muhammad Shahzad Kamal, Ibelwaleed A. Hussein, Abdullah S. Sultan, Nicolas von Solms, "Application of Various Water Soluble Polymers in Gas Hydrate Inhibition", *Renewable & Sustainable Energy Reviews*, Vol 60, 206–225.
34. Nasser, M. S., Al-Marri, M. J, Abdelbaki Benamor, Khraisheh, M., Onaizi, S.A. (2016) 'Flocculation and Viscoelastic Behaviour of Industrial Papermaking Suspensions' *Korean Journal of Chemical engineering*, 33, 448-455.

35. Nasser, M.S., S.A. Onaizi, I.A. Hussein, M.A. Saad, M.J. Al-Marri, A. Benamor. (2016) 'Intercalation of ionic liquids into bentonite: Swelling and rheological behaviors' *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 507, 141-151.
36. Nwaoha, Chikezie, Chintana Saiwan, Teeradet Supap, Raphael Idem, Paitoon Tontiwachwuthikul, Wichitpan Rongwong, Mohammed J. Al-Marri, and Abdelbaki 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* 53 (2016): 292-304.
37. Onaizi, S.A., Nasser, M. S., Al Lagtaha, Nasir M. A. (2016) 'Self-assembly of a Surfactin Nanolayer at Solid-Liquid and Air-Liquid Interfaces' *European Biophysics Journal*, 45, 331-339.
38. Onn, T. M., Ramirez, L. R., Monai, M., Oh, T. S., Talati, M., Fornasiero, P., Gorte, R. J., Khader, M. M. "Modification of a Pd/CeO₂ catalyst by ALD of ZrO₂" *Applied Catalysis B: Environmental* 197 (2016) 280–285
39. Rabbani, M, Patil, S., Verma, A., Villarreal, J., Korgel, B., Nekovei, R. Khader, M. M., Darling, R., Anantram, A. "Zero-bias photocurrents in highly-disordered networks of Ge and Si nanowires" , *Nanotechnology* 27 (2016) 045201-045210.
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41. Shakil Hussain, Mustapha Alao Animashaun, Muhammad Shahzad Kamal, Nisar Ullah , Ibelwaleed A. Hussein, Abdullah S. Sultan, "Synthesis, Characterization and Surface Properties of Amidosulfobetaine Surfactants", *J. Surfactants and detergents*, 19, 413–420, DOI 10.1007/s11743-016-1788-9
42. 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* 167 (2016) 97–107.
43. Ubaid, S., R. Zacharia, J. Xiao, R. Chahine, P. Bénard, P. Tessier, Charge-discharge cycling, flowthrough cooling and para-ortho conversion for cooling bulk hydrogen storage tank filled with MOF-5, *International Journal of Hydrogen Energy*, 41 (2016), 1044-1052.
44. Umer Mehmood, Ibelwaleed A Hussein, Amir Al-Ahmed, "Polythiophene Derivatives in Polymer Photovoltaics: Review on Recent Advances", *Renewable & Sustainable Energy Reviews*, Vol 57, pp 550–561.
45. Umer Mehmood, Ibelwaleed A Hussein, Khalil Harrabi, Shakeel Ahmed, "Enhanced photovoltaic performance of Dye Sensitized Solar Cells Using TiO₂-Graphene micro-platelets hybrid photoanode". *IEEE Journal of Photovoltaics*, Vol 6(1), pp 196-201
46. Umer Mehmood, Ibelwaleed A Hussein, Khalil Harrabi, Shakeel Ahmed, "Enhancing Light Conversion Efficiency of Dye Sensitized Solar cell using TiO₂-MWCNT Hybrid Photoanode". *IEEE Journal of Photovoltaics*, pages 486-490, Vol 6 (2).
47. Umer Mehmood, Ibelwaleed A. Hussein, Khalil Harrabi, Nouar Tabet, G. Berdiyrov "Enhanced photovoltaic performance with co-sensitization of ruthenium (II) sensitizer and an organic dye in dye-sensitized solar cells", *RSC Advances*, Vol 6, 7897-7901
48. Umer Mehmood, M. Zaheer Aslam, R. A. Shawabkeh, Ibelwaleed A Hussein, Waqar Ahmad, Adeem Ghaffar Rana, "Improvement in photovoltaic performance of dye sensitized solar cell using

Activated Carbon-TiO₂ composites based photoanode”, IEEE Journal of Photovoltaics, VOL. 6, NO. 5, pp. 1191-1195.

49. 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*, 114, 180-189.
50. 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*, 114, 162-170.
51. Zheng, K. Židek, 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*, 120, 3077-3084.
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54. Zhong, Nan, Helei Liu, Xiao Luo, Mohammed J. AL-Marri, Abdelbaki Benamor, Raphael Idem, Paitoon Tontiwachwuthikul, and Zhiwu 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* 55, no. 27 (2016): 7307-7317.

4.3.4 Conference Publications 2016

1. Al-Marri, Mohammed Jaber, Umer Mehmood, Ibelwaleed 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.
2. Ang, W. L., Mohammad, A. W., Benamor, A., & Hilal, N. (2016). Chitosan as natural coagulant in hybrid coagulation-nanofiltration membrane process for water treatment. *Journal of Environmental Chemical Engineering*, 4(4), 4857-4862.
3. Benamor, A., Ahmed Gomaa Talkhan and Mohammed Jaber 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
4. Eliebid, M., Mohamed Mahmoud, Reyad Shawabkeh, Salaheldin Elkatatny, Ibelwaleed A. Hussein, "Effect of CO₂ adsorption on the Enhanced Natural Gas Recovery by CO₂ and Sequestration in Carbonate Reservoirs", *The 5th International Gas Processing Symposium*, Qatar University, Doha, November 28-29, 2016.
5. Eliebid, Mohammed, Mohamed Mahmoud, Reyad Shawabkeh, Salaheldin Elkatatny, Ibelwaleed A. Hussein, "Effect of CO₂ Content on the Natural Gas Production from Tight Gas Sandstone Reservoirs". *MEOS 2017*. : SPE-183661-MS.
6. El-Naas, M, El Telib, A, A Novel Spouted Bed Bioreactor System for the degradation of BTEX, *The 5th International Gas Processing Symposium*, Doha, Nov 27-29, 2016.
7. El-Naas, M. H., "Assessment of a New Process for CO₂ Capture ", *6th TRC-JCCP/ IDEMITSU International Symposium*, Abu Dhabi, , February 10-11, 2016 (Keynote)

8. El-Naas, M. H., A. Mohammad, M. I. Suleiman, and M. Al Musharfy, "Statistical Analysis and Optimization of a Process for CO₂ Capture", the 18th International Conference on Environmental Science and Technology, Venice, Italy, April, 11-12, 2016.
9. El-Naas, M. H., T. Al-Khalid, Biotechnology in the Oil and Gas Industry: Potentials for the Treatment of Processed Water, the 17th International Biotechnology Symposium and Exhibition (IBS 2016), Melbourne, Australia, 24 - 27 October 2016.
10. Hameedi, S, El-Naas, M, El-Gamal, M, Al Marzouqi, A, Mohamed A, Statistical Modeling of Direct Gas-Solid Mineral Carbonation of Steel-making Residues, The 5th International Gas Processing Symposium, Doha, Nov 27-29,2016
11. Hasan, S, El-Naas,M, Evaluation of Electrocoagulation for the treatment of Carbide Slurry, The 5th International Gas Processing Symposium, Doha, Nov 27-29,2016
12. He MA, Sultan, A, Reyad Shawabkeh, Nasser, M. S. (2016) 'Destabilization and Treatment of Produced Water-Oil Emulsions Using Anionic Polyacrylamide with Electrolyte of Aluminum Sulphate and Ferrous Sulphate' Abu Dhabi International Petroleum Exhibition & Conference, 7-10 November, Abu Dhabi, UAE.
13. Kui Wang, Yehia M. Manawi, Viktor Kochkodan, Muataz A.Hussien, Marwan Khraisheh, Abdelbaki Benamor, Mechanical Behavior of a Novel Nanocomposite Polysulphone – Carbon Nanotubes Membrane for Water Treatment. The Qatar Foundation Annual Research Conference 2016 (ARC'16), 22nd-23rd March 2016.
14. 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.
15. Mohammad, A, El-Naas, M, Suleiman,M, Al Musharfy,M, Al Marzouqi,A, CO₂ Capture through Reactions with Steel-Making Dust in High Salinity Water, The 5th International Gas Processing Symposium, Doha, Nov 27-29,2016
16. Mohammed Jaber Al-Marri, Umer Mehmood, Ibelwaleed A. Hussein, "Enhancement of power conversion efficiency of dyesensitized solar cells using nanocomposites of carbonaceous materials withTiO₂", European Advanced Materials Congress, Stockholm, Sweden.
17. Muneer M. Ba-Abbad, Mohd S. Takriff, Ebrahim Mahmoudi, Ying Tao Chung, Abdul Wahab Mohammad and Abdelbaki Benamor, Co₂⁺ ions doped ZnO Nanoparticles for Enhancement of Surface Hydrophilicity of Polysulfone Membrane. 2nd International Conference on Desalination and Environment, Doha, Qatar, 23-26 January 2016.
18. Muneer Mohammed Ba-Abbad, Abdul wahab Mohammad, Ebrahim Mahmoudi, Khalefa Faneer and Abdelbaki Benamor, novel Graphene-Zinc Iron Oxide Composite to Enhance Ultrafiltration Membrane Performance for Water Treatment and Desalination. The Qatar Foundation Annual Research Conference 2016 (ARC'16), 22nd-23rd March 2016.
19. Nacim Zemour, Abdelwahid Azzi, Omar Rahli, Muneer M. Ba-Abbad, AbdulWahab Mohammad, Nidal Hilal and Abdelbaki Benamor. Mathematical modeling of the reverse osmosis desalination process using spiral wound membrane. 2nd International Conference on Desalination and Environment. 23-26 January 2016, Doha, Qatar
20. 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.

21. Shaikh, S. M.R., Mustafa Nasser, Ibelwaleed Hussein, "Effect of polyacrylamide charge type and density on the degree of flocculation of bentonite dispersions", The 5th International Gas Processing Symposium, Qatar University, Doha, November 28-29, 2016.
22. Shaikh, S., Mustafa Nasser, Abdelbaki Benamor, Ibelwaleed Hussein, "Effect of Charge Type and Density of Polyacrylamide on the Electrokinetics Behavior of Flocculated Bentonite Suspensions", AIChE Annual Meeting, San Francisco, USA.
23. Abdelbaki Benamor, M. N. Nasser, Mohammed Jaber 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
24. Shurair, M.S., Almomani, F., Judd, S., Bhosale, R.R., and Kumar, A. (2016). Potential for green algae spirulina to capture carbon dioxide from gas stream. Paper presented at the Advanced Materials - TechConnect Briefs 2 141-143.
25. Nacim Zemour, Abdelwahid Azzi, Omar Rahli, Abdelbaki Benamor, Modelling Analysis of Produced Water Desalination Using Reverse Osmosis. The 5th International Gas Processing Symposium, Nov 27-28, 2016. Doha Qatar
26. Abdelbaki Benamor, Ahmed Gomaa Talkhan and Mohammed Jaber 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, 2016. Doha Qatar

4.3.5 Patent Granted/Applications 2017

1. Golam Rabbani, Amit Verma, Reza Nekovei, Mahmoud M. Khader, Anantram Patent entitled "Photodetector Cell And Solar Panel With Dual Metal Contacts And Related Methods" U.S. Patent, ADDMG File No. 0124551, Application Serial No. 14/972,693, filed December 17, 2015.
2. Aditya C.S. Ratcha, Amit Verma, Reza Nekovei, Mahmoud M. Khader, Patent entitled "Heterojunction Schottky Gate Bipolar Transistor", US Patent No. 9,793,430.

4.3.6 Books and Book Chapters 2017

1. Al-Khalid, T. and M. H. El-Naas, "Organic Contaminants in Refinery Wastewater: Characterization and Novel Approaches for Biotreatment", in Petroleum Science and Engineering, Editor: M. Zoveidavianpoor, InTech (2017). ISBN 978-953-51-5321-4
2. Benamor Abdelbaki, Mustafa Nasser, and Mohammed J Al-Marri, "Gas Processing Technology-Treatment and Utilization", In: Encyclopedia of Sustainable Technologies, Abraham, M.A. (Ed.), Elsevier, pp. 359–387. ISBN: 9780128046777.
3. El-Naas, M. H., Hussein A. Mousa and Maisa El Gamal, Microbial Degradation of Chlorophenols, in Microbe-induced Degradation of Pesticides, Edited by: S. N. Singh, Springer (2017), ISBN: 978-3-319-45155-8.
4. Moussa, D. T. and M. H. El-Naas, Electrochemical technologies for produced water treatment, Chapter 13 in Inorganic Pollutants in Wastewater: Methods of Analysis, Removal and Treatment, Editors: Inamuddin, Abdullah M. Asiri and Ali Mohammad, Materials Research Forum (2017). ISBN 978-1-945291-34-0.

5. Zhien Z., T. N. G. Borhani, M. H. El-Naas, CO₂ Capture, in Exergetic, Energetic and Environmental Dimensions, Editors: Ibrahim Dincer, Can Ozgur Colpan, Onder Kizilkan, Elsevier (2017). ISBN 978-0128137345.
6. Zacharia R, El-Naas M, Al-Marri, M. J., Adsorptive removal of non-acid oxygenates from GTL Water, in Water Management: Social and Technological Perspective, CRC Press (In Press).

4.3.7 Journal Publications 2017

1. Abotaleb, A., M. H. El-Naas, A. Amhamed, Enhancing gas loading and reducing energy consumption in acid gas removal systems: A simulation study based on real NGL plant data, Journal of Natural Gas Science and Engineering, in press.
2. Al-Ketife, A.M.D., Judd, S.J., and Znad, H. (2017). Optimization of cultivation conditions for nutrient removal and CO₂ fixation in a batch photobioreactor, J. Chem. Tech. Biotech. 92(5)1085-1093.
3. Al-Ketife, A.M.D., Judd, S.J., and Znad, H. Synergistic effects and optimization of nitrogen and phosphorus concentrations on the growth and nutrient uptake of a freshwater *Chlorella vulgaris*, Environ. Technol. 38(1) (2017) 94-102.
4. Al-Khalid, T., M. H. El-Naas, Biodegradation of 2, 4 Dichlorophenol, American Journal of Engineering and Applied Sciences, 2017, 10 (1) 175-191.
5. Al-Marri MJ, Al-Saad KA, Saleh MA, Cortes DJ and Khader MM " Thermodynamics of CO₂ Adsorption on Polyethyleneimine Mesoporous Silica and Activated Carbon" J Phys Chem Biophys 2017, 7:1, in press.
6. Al-Saydeh, S. A., M. H. El-Naas, S. J. Zaidi, Copper removal from industrial wastewater: A comprehensive review, Journal of Industrial and Engineering Chemistry, 56 (2017) 35–44.
7. Altamash, T., M. Atilhan, et al. (2017). "Rheological, Thermodynamic, and Gas Solubility Properties of Phenylacetic Acid-Based Deep Eutectic Solvents." Chemical Engineering and Technology 40(4): 778-790.
8. Ang, W. L., D. Nordin, A. W. Mohammad, A. Benamor, and N. Hilal. "Effect of membrane performance including fouling on cost optimization in brackish water desalination process." Chemical Engineering Research and Design 117 (2017): 401-413.
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4.3.8 Conference Publications 2017

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2. Almomani, F., Judd, S., Shurai, M., Bhosale, R., Kumar, A., and Khreisheh, M. (2017). Potential use of mixed indigenous microalgae for carbon dioxide bio-fixation and advanced wastewater treatment. Paper presented at the Environmental Division 2017 - Core Programming Area at the 2017 AIChE Spring Meeting and 13th Global Congress on Process Safety, 58-64.
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8. El-Naas, M. H., A practical approach to CO₂ sequestration: reactions with high salinity water, The 6th International Conference on Earth Science and Climate Change (Earth Science 2017),

Macau, Honk Kong, September 18-19, 2017

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10. Khader, M.M., Mohammed J. Al- Marri, Sardar Ali, Ahmed G. Abdelmoneim “Palladia/ceria robust methane oxidation catalyst” International Conference on Advances in Functional Materials in UCLA. Aug 14 – 17 2017 at the University of California, Los Angeles, USA.
11. Khader, M.M., Mohammed J. Al- Marri, Sardar Ali, Ahmed G. Abdelmoneim, Anand Kumar, Mohd Ali H. Saleh and Ahmed Soliman “Catalytic Evaluation of Ni-Based Nano-Catalysts in Dry Reformation of Methane”, IEEE-NANO 2017 Conference Program , July 25-28, 2017 Pittsburgh Marriott City Center, Pittsburgh, PA, USA
12. Mahmoud, M., Muhammad, Shahzad Kamal and Ibelwaleed Hussein, “Impact of clay minerals in sandstone reservoirs on formation damage during enhanced oil recovery and stimulation operations”, Int. Clay Conference, Granada, Spain, July 2017.
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