

Selected Publications (2012-2014)

Chemical Engineering

1. Rehman A., Safdar Hossain, Rahman S. Ahmed S., Hossain M.M, WO₃ modification effects on Pt-Pd/WO₃-OMC electrocatalysts for formic acid oxidation. (In press for Publication, Applied Catalysis A- General)
2. Safdar Hossain SK, S.U. Rahman, Shakeel Ahmed, Copper catalyst supported on carbon nanotubes for electrochemical reduction of carbon dioxide.
3. Amir Al-Ahmed, Safdar Hossain, S. U. Rahman, S. M. J. Zaidi, Application of Titanium Dioxide (TiO₂) Based Photocatalytic Nanomaterials in Solar and Hydrogen Energy: A Short Review, *Material Science Forum*, vol.712, pp. 25-47, 2012. (in process of publication)
4. Amir Al-Ahmed, Safdar Hossain, M. Bello, S. U. Rahman, S.M.J Zaidi, Hydrogen highway: An overview, *IEEE International*, Bahrain, Dec 2010. in process of publication)
5. M. Al-Yaari, I.A. Hussein, and A.. Al-Sarkhi, "Pressure Drop Reduction of Stable Water-in-Oil Emulsions using Organoclays", *Applied Clay Science*, 2014, doi: <http://dx.doi.org/10.1016/j.clay.2014.04.029>.
6. M. Al-Yaari, A. Al-Sarkhi, I. Hussein, F. Chang, and M. Abbad, "Flow Characteristics of Surfactant Stabilized Water-in-Oil Emulsions", *Chemical Engineering Research & Design*, 92, 2014, 405-412.
7. Mohammed A. Al-Yaari, Ibenlwaleed A. Hussein, and AbdelSalaam M. Al-Sarkhi, "Pressure Drop Reduction of Stable Water-in-Oil Emulsion using Organoclays", *2013 AIChE Annual Meeting*, San Francisco, United States, November 3-8, 2013.
8. M. Al-Yaari, A. Al-Sarkhi, I. Hussein, and B. Abu-Sarkh, "Effect of Drag Reducing Polymers on Surfactant Stabilized Emulsion Flow Characteristics", *Experimental Thermal and Fluid Science*, 51, 2013, 319-331.
9. Syed Sadiq Ali, Mohammad Asif, "Bed Collapse Behavior of Pulsed Fluidized beds of Nano-powder", *Advanced Powder Technology*, June 2013 (Impact Factor 1.612).
10. Mohammad Asif, Syed Sadiq Ali, "Bed Collapse Dynamics of Fluidized beds of Nano-powder", *Advanced Powder Technology*, Feb. 2013 (Impact Factor 1.612).
11. Syed Sadiq Ali, Mohammed Asif, "Fluidization of nano-powders: Effect of flow pulsation", *Powder Technology*, 2012, 225, 86-92 (2012) (Impact Factor 2.08).

Civil Engineering:

1. Faisal I. Shalabi, Edward J. Cording, and Stanley Paul. (2014) "Sealant behavior of gasketed segmental tunnel lining - conceptual model". Paper submitted for publication to: *Tunnelling and Underground Space Technology*.
2. Faisal I. Shalabi, Talat A. Bader. (2014) "Effect of sand densification due to pile-driven on pile side resistance, "International Journal of Civil Engineering (IJCE), Vol. 3, Issue 1, Jan 2014, 17-30.
3. Faisal I. Shalabi, Ibrahim M. Asi, and Hisham Y. Qassrawi. (2014) "Use of by-product steel Slag to Improve the Engineering Properties of Clayey Soils and Base-course Materials", Paper submitted for publication to: *Geotechnical and Geological Engineering*.
4. Faisal I. Shalabi, Edward J. Cording, and Stanley Paul (2012) "Concrete segment tunnel lining sealant performance under earthquake loading", *Tunnelling and Underground Space Technology*, 31: 50-60.
5. Mahmoud, K., and El-Salakawy, E.F. (2014). "Shear Behavior of GFRP-RC Continuous Beams without Transverse Reinforcement." *ASCE Journal of Composites for Construction*.
6. El-Mogy, M., El-Ragaby, A. and El-Salakawy, E. F. (2013) "Experimental Testing and Finite Element Modeling of Continuous Concrete Beams Reinforced with FRP Bars and Stirrups." *Canadian Journal of Civil Engineering*, Accepted for publication.
7. Inyeop Chu, Yun Lee, Muhammad Nasir Amin, Bong-Seok Jang, Jin-Keun Kim, "Application of a thermal stress device for the prediction of stresses due to hydration heat

- in mass concrete structure”, *Construction and Building Materials*, Vol. 45, pp. 192–198, (2013).
8. Inyeop Chu, Seung Hee Kwon, Muhammad Nasir Amin, Jin-Keun Kim, “Estimation of temperature effects on autogenous shrinkage of concrete by a new prediction model”, *Construction and Building Materials*, Vol. 35, pp. 171–182, (2012).
 9. Choudhry, R. M., Hinze, J. W., Arshad, M., and Gabriel, H.F. (2012). Subcontracting Practices in the Construction Industry of Pakistan. *Journal of Construction Engineering and Management*, 138 (12), 1353-1359.
 10. Islam, M.R. and El-Salakawy, E.F. (2013). “Capacity of PL-2 GFRP-Reinforced Concrete Bridge Barriers.” *ASCE Journal of Bridge Engineering*, Accepted for publication.
 11. El-Sayed, A., El-Salakawy, E.F. and Benmokrane, B. (2012). “Shear Strength of FRP-Reinforced Concrete Deep Beams without Web Reinforcement.” *Canadian J. of Civil Eng.*, 39 (5): 546-555.
 12. ShahidKabir(2013) Optimum Processed Nakheel Ash (OPNA) as Cementing Materials (US Patent Pending)
 13. ShahidKabir and A. Ahamd (2013) High-strength Concrete Based On Palm Oil Fuel Ash, (Patent Granted) Euro-Patent No. WO2013019100
 14. ShahidKabir, M. Nurdeen and A. Megat (2012) A Green Engineered Cementitious Composite, (Patent Granted) Euro- Patent No. WO2012115500
 15. M.H.B. Afzal, ShahidKabir and O. Sidek, (2012) An In-Depth Review: Structural Health Monitoring using Fibre Optic Sensor, *IETE Technical Review*, vol 29, no. 2, pp. 105-113.
 16. ShahidKabir (2012) Mitigation Development for the Reduction of Greenhouse Gas Emissions by the Cement Industry: Agrowaste-based Green Building and Construction Materials, *54th Annual IEEEIAS/PCA Cement Industry Technical Conference*, May 13-17, San Antonio, TX, USA.
 17. ShahidKabir and G. Emhaidy (2012) Olive Oil Waste (OOW): A Promising Green Supplemental Cementitious Material for High-strength Concrete, *ACI International Congress on Durability of Concrete*, 18-21 June, Norway.

Electrical Engineering:

1. Faris M. Al-Oqla and Amjad A. Omar: An expert based model for selecting the most suitable substrate material type for antenna circuits. Accepted in March 2014 for publication in *Int. Journal of Electronics*.
2. Hesham Enshasy, Amjad Omar, Chang Mosong, and Hussain Alnuairi: Spectroscopic sensing for in-situ monitoring of water fraction in natural gas flow. *SPE Intelligent Energy Conference*, Dubai, Oct. 2013.
3. A.A. Omar: Design of ultra-wideband coplanar waveguide-fed Koch-fractal triangular monopole antenna. *Int. Journal of RF and Microwave Computer-Aided Engineering*, 23(2), 200-207, 2012.
4. A. Omar: An efficient solution of the input impedance of half wave dipole near a human head. *Int. Journal of RF and Microwave Computer Aided Engineering*, 22(2):153-158, 2012.
5. M. H. Shwehdi et. al, " Conservation Strategies In Hot-Humid Environment In Saudi Arabia" accepted for Oral Presentation at *IEEE PES Asia-Pacific Power and Energy Engineering Conference 2013 (IEEE PES APPEEC 2013)*, December 11-13 Hong Kong.
6. Qasem Abu Al-Haija, Mohamed H. Shwehdi and Muhammad Banat, Evaluation Metrics for Wireless Sensor Network Security: Algorithms Review and Software Tool, *Journal of Computer Science* 9 (5): 635-645, 2013
7. Hesham M. Enshasy and Daniel T. Cassidy, " The effect of InP based wide tunable AMQW laser length on power profile", *SPIE Photonics Europe*, Brussels, Belgium, 14-17 April 2014.
8. Hesham Enshasy, Amjad Omar, Mosong Cheng, and Hussein Alnuweiri, " Spectroscopic Sensing for In-Situ Monitoring of Water Fraction in Natural Gas Flow", *SPE Middle East Intelligent Energy Conference*, Dubai, UAE, 28–30 October 2013
9. Hesham M. Enshasy and Daniel T. Cassidy, "Effect of doping profile on the output power of broadly tuneable InGaAsP/InP asymmetric multiple quantum well lasers: finite element

- method simulations and experimental results”, Journal [IET Optoelectronics](#), [Volume 6, issue1](#), February 2012, p.57 – 65
10. M. D. S. Aliyu and E. K. Boukas: H-infinity Filtering for Nonlinear Singular Systems, *IEEE Transactions Circuits and Systems*, 59(10):2395-2404, October 2012.
 11. M. D. S. Aliyu and M. Perrier: H-infinity Filtering for Discrete-time Nonlinear Descriptor Systems, *IET Control Theory and Applications*, 6(6):787-795, 2012.
 12. M. D. S. Aliyu: 2-DOF-PD Nonlinear H-infinity Filters, *Optimal Control Applications and Methods*, 33:263-275, 2012.
 13. M.. Bouzguenda, T. Selmi, A. Masmoudi and A. Gastli, "Microcontroller-Based Inverter Topology Integrated in PV Systems", accepted for publication *COMPEL*, April 4, 2014..
 14. Arif Malik and M. Bouzguenda, "Effects of Smart Grid Technologies on Capacity and Energy Savings—A Case Study of Oman", *Energy* Volume 54, 1 June 2013, pp. 365–371.
 15. T. Salmi, M. Bouzguenda, A. Gastli and A. Masmoudi, "Transformerless micro inverter for photovoltaic systems". *International Journal of Energy and Environment*, Vol. 3, Issue 4, 2012 pp.639-650. Journal homepage: www.IJEE.IEEFoundation.org
 16. M. Bouzguenda: "A comparative study of hybrid diesel solar PV–wind power systems in rural areas in the Sultanate of Oman", *International Journal of Sustainable Energy*, Volume 31, Issue 2, 2012, pp. 95-106.
 17. T. Salmi, M. Bouzguenda, A. Gastli and A. Masmoudi, "A Novel Transformerless Inverter Topology without Zero-Crossing Distortion", *International Journal of Renewable Energy Research*, *IJRER*, Vol. 2, No 1 (2012) , pp. 140-146.
 18. T. Salmi, M. Bouzguenda, A. Gastli and A. Masmoudi, "MATLAB/Simulink Based Modeling of Photovoltaic Cell", *International Journal of Renewable Energy Research*, Vol.2, No.2, 2012, pp. 213-218.
 19. T. Salmi, M. Bouzguenda, A. Gastli, and A. Masmoudi, "Review of Common Mode Voltage Transformerless Inverter Topologies for PV Systems", *Sustainability in Energy and Buildings*, Series: *Smart Innovation, Systems and Technologies*, Vol. 12, edited by M'Sirdi, N.; Namaane, A.; Howlett, R.J.; Jain, L.C. (Eds.), 2012, pp 589-596.
 20. M. Bouzguenda: "A comparative study of hybrid diesel solar PV–wind power systems in rural areas in the Sultanate of Oman", *IJSE*, [Vol. 31, Issue 2](#), 2012, pp. 95-106.
 21. T. Salmi, M. Bouzguenda, A. Gastli and A. Masmoudi, "MATLAB/Simulink Based Modeling of Photovoltaic Cell", *IJRE Research*, Vol.2, No.2, 2012, pp. 213-218.
 22. T. Salmi, M. Bouzguenda, A. Gastli, and A. Masmoudi, "Review of Common Mode Voltage Transformerless Inverter Topologies for PV Systems", *Sustainability in Energy and Buildings*, Series: *Smart Innovation, Systems and Technologies*, Vol. 12, edited by M'Sirdi, N.; Namaane, A.; Howlett, R.J.; Jain, L.C. (Eds.), 2012, pp 589-596.
 23. Mounir Bouzguenda, Tarak Salmi, Adel Gastli and Ahmed Masmoudi, "Evaluating Solar Photovoltaic System Performance using MATLAB", *First Int. Conf. on Renewable Energies and Vehicular Technology (REVET)*, 2012 Hammamet, Tunisia, March 26-28, 2012.
 24. Yazan H. Al-Badarneh and Mahmoud A. Smadi "A Unified Semi-Analytical Technique to Evaluate the Distributions of Products of Non-Identically Distributed Weibull Random Variables" *IEEE Wireless Commun. and Network Conf. WCNC'14*, Istanbul-Turkey, April 2014.
 25. M. A. Smadi, Qasem Abu Al-Haija and Awni Itradat "Exact Error Rate Analysis of MIMO-MRC System under Cochanel Interference and Imperfect Channel State Information" Accepted in *Wireless Personal Comm.-Springer*.
 26. M. A. Smadi, S. Al-Jazzar, J. Ghaeb and O. Saraereh "Confidence Intervals Verification for Simulated Error Rate Performance of Wireless Communication System," *Wireless Personal Comm.-Springer*, vol. 71, pp. 2463–2474, 2013.
 27. M. A. Smadi, S. Al-Jazzar, and J. Ghaeb, "Simplified bit error rate evaluation of Nagakami-m PSK systems with phase error recovery," *Wireless Communications and Mobile Computing -John Wiley*, vol. 12, pp. 248-256, 2012.
 28. M. A. Naser, M. S. Patterson, and J. W. Wong, "Algorithm for localized adaptive diffuse optical tomography and its application in bioluminescence tomography," accepted in *Physics in Medicine and Biology*, March 10, 2014, Article reference: PMB-100185.R2
 29. M. A. Naser, M. S. Patterson, and J. W. Wong, "Self-calibrated algorithms for diffuse optical tomography and bioluminescence tomography using relative transmission images," *Biomedical Optics Express*, 3, issue 11, 2794–2808 (2012).

30. M. A. Naser, and M. S. Patterson," Reconstruction Algorithm for Fluorescence Tomography Using a Reduced Space of Eigenvectors and Optimized Permissible Source Region". Biomed Poster Session II (BTu3A), Miami, Florida, USA, April 28, 2012.
31. J. Wong, M. Naser, M. Patterson, M. Armour, R. Tuli, I. Iordachita, "65 Integrated On-Board X-Ray and Bioluminescence Tomography to Guide Focal Irradiation of Soft Tissue Targets in Small Animals," (Abstract Only) *Radiotherapy and Oncology*, 102, S23 (2012).
32. Q. Abu Al-Haija & A. Al-Badawi, "Cost-Effective Design for Binary Edwards Elliptic Curves Cryptoprocessor Over GF (2N) Using Parallel Multipliers & Architectures", Inter. Journal of Information & Computer Security (IJICS), Inderscience, V.5 (3) 2013.
33. Q. Abu Al-Haija, M. Shwehdi and M. Banat, "Evaluation Metrics for Wireless Sensor Network Security: Algorithms Review and Software Tool", Journal of Computer Science 9 (5): 635-645, 2013.
34. Q. Abu Al-Haija, et. al., "An Undergraduate Design Experience in Digital Logic Design Course of Special Purpose Arithmetic Logic Unit Using Multisim, Ultiboard and Print Circuit Board", International Education Studies (IES), Canada, V.6 (3) 2013.
35. Q. Abu Al-Haija, et. al., "Case Study: Monitoring of AIR Quality in King Faisal University Using Microcontroller and WSN ", 4th International Conference on Emerging Ubiquitous Systems and Pervasive Networks, Elsevier, Ontario, Canada, Oct-2013
36. Q. Abu Al-Haija and M. Smadi, "An Algorithm and Hardware Architecture for GF (2N) Elliptic Curve Cryptography by Adopting Projective Binary Hessian Elliptic Curves", Secure Abu Dhabi'2013 Conference (SAD 2013).
37. Q. Abu Al-Haija and M. Shwehdi, "A Power Line Data Communication Interface Using Power Line Modem In Home Automation", Saudi Electricity Efficiency Forum and Exhibition, Riyadh, KSA, Nov-2012.
38. S. Raja Mohamed, M.H Shwehdi, "Computation of Lightning Impulse Back flashover Outages Rates on High Voltage Transmission Lines", International Journal of Automation and Power Engineering (IJAPE) Volume 3, Issue 1, January 2014.
39. M. H. Shwehdi, Dr. Suliaman Forteah, S. Raja Mohamed, "DG Placements Impact on the Reliability of Typical Industrial Distribution System in Saudi Arabia", International Journal of Automation and Power Engineering (IJAPE) Volume 3, Issue 2, March 2014.
40. Mashhoor Al Tarayrah and Qasem Abu Al-Haija, "Adaptive Channel Equalization for FBMC Based on Variable Length Step Size and Mean-Squared Error", International Journal of Digital Information and Wireless Communications (IJDIWC) 3(4), UAE, pp. 66-76, December 2013.

Mechanical Engineering:

1. Jawarneh A.M, Al-Tarawneh M, Ababneh M.K, Tlilan H, "Solar Energy Availability on Horizontal and Tilted Surfaces: a Case Study", International Review of Mechanical Engineering, vol. 6, no. 4, 2012, pp. 901-917.
2. Badran, O., Sarhan, H., Alemour, B: Thermal performance analysis of induction motor, International Journal of Heat and Technology, Elsevier, Volume 30, Issue 1, 2012, Pages 75-88. Aug, 2012
3. Sari, M., Nazari, M., and Butcher E.A.: Effects of Damaged Boundaries on the Free Vibration of Kirchhoff Plates: Comparison of Perturbation and Spectral Collocation Solutions, Journal of Computational and Nonlinear Dynamics 7 (2012) 011011-1-11.
4. Sari, M. and Butcher E.A.: Free Vibration Analysis of Non-Rotating and Rotating Timoshenko Beams with Damaged Boundaries Using the Chebyshev Collocation Method, International Journal of Mechanical Sciences 60 (1) (2012) 1-11.
5. Sari, M.S. and Butcher, E.A.: Free Vibration Analysis of Rectangular and Annular Mindlin Plates with Undamaged and Damaged Boundaries by the Spectral Collocation Method, Journal of Vibration and Control 18 (11) (2012) 1722-1736.
6. Sari, M.S. and Butcher, E.A.: Three Dimensional Vibration Analysis of Rectangular Plates with Undamaged and Damaged Boundaries by the Spectral Collocation Method (accepted for publication in International Journal of Acoustics and Vibration).
7. Mofid Mahdi, A Thermal Analysis of An Improved Rankine Steam Power Cycle, International Journal of Mechanical Engineering (IJME), 1/2 25-36 (2012).

8. Al-Widyan, M. and A. Al-Shaarawi. 2012. Numerical Investigation of Heat Transfer Enhancement for a Perforated Fin in Natural Convection. *International Journal of Engineering Research and Applications (IJERA)*, 2(1): 175-183.
9. Silaipillayarputhur, K. and Idem, S., 2014, "Transient finite difference performance model for single pass and multi pass cross flow heat exchangers", *Heat Transfer Engineering*, Volume 35, Issue 1, page 15-24.
10. Abdulaziz H. El-Sinawi, Kifah Takroui, Omar Osta & No'man Haimour, "The Effect of High Water Content of Fuel on Diesel Engine Emission", *Global Journal of Researches in Engineering*, Chemical Engineering, Volume 12, Issue 3, 2012.
11. Covington, L., Munirathinam, K., Islam, W., and K.L. Roberts, "Synthesis and characterization of nanostructured molybdenum & tungsten materials", *Polish Journal of Chemical Technology*, Chemical Engineering, Volume 14, Number 1, pp. 28-34 (2012).