

# Dr. M.Reza MOZDIAN FARD

## CURRICULUM VITAE

### **PERSONAL DETAILS:**

D.O.B.: 27<sup>TH</sup> July 1963  
Health: Good  
Languages: Persian, English, German  
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### **EDUCATION:**

1977-1981 High School Studies.  
1984-1986 Bourneville College of F.E., A-Level.  
1986-1990 University of Birmingham, BSc.(Eng)  
1990-1991 University of Birmingham, MSc.(Eng)  
1992-1994 University of Birmingham, MPhil.  
1998-2002 University of Birmingham, PhD  
2001-2003 Assn. for Invest. Mng.t & Res.-AIMR, USA  
2002-2004 Candidate for Chartered Financial Analyst,  
Candidate - Certificate for Securities and  
Financial Derivatives, Financial Services  
Authorities, London.

### **QUALIFICATIONS**

Ph.D. Manufacturing and Mechanical Eng. (15<sup>th</sup> April 2002, degree award: July 2002)

M.Phil studies were extended with a view to examine a proposed technique to enhance breakage of particles in Chemical and Mineral Processing by surface induced shear in a novel new mill design proposed by myself for the first time. Work started at Chem. Eng., but in view of the new conceptual design introduced and other factors, the conduct of the study was transferred to Man. and Mech. Eng. in collaboration with Inter-disciplinary Research Centre (IRC) at Birmingham University. This approach proved successful as several improvements in the size reduction technique and associated energy consumption were identified.

M.Phil. (Qual) Chemical Eng. (MAR 1995)

This was a Study of Particle Breakage in High Pressure Comminution. On my own initiative I negotiated successfully the inception, sponsorship and contract of the research project with Rolls Royce and its subsidiary NEI at Derby, England. Newly developed High Pressure Roll Mill, considered as the most important technological advancement in comminution in the last 40 years as well as attrition mills were studied and improvements in the comminution techniques were suggested. The work was recommended to be continued for PhD.

M.Sc. (M.Eng.) Integrated Management Systems, Manufacturing and Mechanical Eng.– (SEP 1991)

Subjects studied are: Organisations as Systems, Management Accounting Systems, Work Design & Measurement, Manufacturing Systems, Material Handling, Logistics, Quality and Reliability, Metrology, Management of Change and Time, Ergonomics, Industrial Relations, Manpower and Payment Systems, Stock Control, Forecasting, Economic Analysis, Scientific Methods, Marketing, Finance, Industrial Law, Advanced Statistics, Computing and Programming (Pascal), Databases, Simulation, Case Studies, Communication Course (outdoor), Industrial Research Project.

B.Sc. (B.Eng.) (Hons.) Chemical Engineering. (JUN 1990)

Subjects studied include: Mathematics, Chemistry, Thermodynamics, Heat Transfer, Fluid Flow, Mass Transfer, Reaction Kinetics, Process Control, Tech. Drawing, Eng. Design, Water and Wastewater Treatments, Pollution and Environmental Health, Safety and Hazard Studies, Combustion Eng., Mineral Process Eng., Powder Technology, Fundamentals of Electrical Eng., Statics and Civil Eng., Biochemical Eng., Materials Science, Plastics and Polymer Eng., Mathematical Modelling, Computer Programming (BASIC & FORTRAN), Ind. Law, Economics, Industrial Management, Statistics, Industrial Research Project.

G.C.E. Advanced Level and University English Entry Qualifications (JUN 1986)

Pure Mathematics, Chemistry, Physics, JMB University Entrance in English, Cambridge 1<sup>st</sup> Certificates in English

Diploma in Experimental Science. (JUN 1981)

Equivalent to GCE Ordinary Level in: Physics, Chemistry, Biology, Mathematics, Geology, Geography, Social Science, History, Persian Literature and English

## **PUBLICATIONS**

### **Research Journals and ISI articles**

- 1- E. Diaz-Bejarano, E. Behranvand, F. Coletti<sup>c</sup>, M.R. Mozdianfard, S. Macchietto, “Organic and inorganic fouling in heat exchangers – Industrial case study: Analysis of fouling state”, *Applied Energy*, 206 (2017) 1250-1266.
- 2- F. Masoodiyeh, M. R. Mozdianfard, J. Karimi-Sabet, “Modeling zirconia nanoparticles prepared by supercritical water hydrothermal synthesis using population balance equation”, *Powder Technology*, 317 (2017) 264–274.
- 3- S. Mosleh, G. Khanbabaie, M.R. Mozdianfard, M. Hemmati, “Application of poly (amide-*b*-ethylene oxide)/zeolitic imidazolate framework nanocomposite membrane in gas separation”, *Iranian Polymer Journal*, 25 (12) (2016) 977-990.
- 4- K. Rezaei, V. Aziznezhad, A. Chenani, M. Tabibian, M.R. Mozdianfard, “Risk analysis of the sea desalination plant at the 5<sup>th</sup> refinery of South Pars gas company using HAZOP procedures” *J. Fundam. Appl. Sci.*, 8(2S) (2016) 602-613.
- 5- V. Aziznezhad, K. Rezaei, A. Chenani, H. Shariatimehr, M.R. Mozdianfard, “Risk Analysis of steam generation at the 5th refinery of South Pars Gas Company using HAZOP procedures”, *International Journal of Advanced Biotechnology and Research*, 7 (3) (2016) 1100-1107.
- 6- H. Bakhshandeh, M.S. Zamzam, M.R. Mozdianfard, “Geological Hazards analysis in Urban Tunneling by EPB Machine (Case study: Tehran subway line 7 tunnel)”, *International Journal of Mining and Geo-Engineering*, 50 (1) (2016) 23-36.
- 7- S. Mosleh, M. R. Mozdianfard, M. Hemmati, Gh. Khanbabaie, “Synthesis and characterization of rubbery/glassy blend membranes for CO<sub>2</sub>/CH<sub>4</sub> gas separation”, *J Polym Res*, 2016, DOI 10.1007/s10965-016-1005-6.
- 8- M. Baqeri, M.M. Abolhasani, M.R. mozdianfard, K. Guo, A. Oroumei, M. Naebe, “Influence of processing conditions on polymorphic behavior, crystallinity, and morphology of electrospun poly(vinylidene fluoride) nanofibers”, *J. APPL. POLYM. SCI.*, 2015, DOI: 10.1002/APP.42304.
- 9- S. Mosleh, M. R. Mozdianfard, M. Hemmati, Gh. Khanbabaie, “Mixed Matrix Membranes of Pebax1657 Loaded With Iron Benzene-1,3,5-Tricarboxylate for Gas Separation”, *Polymer composites*, 2015, DOI 10.1002/pc.23702.
- 10- S. Mosleh, M. R. Mozdianfard, M. Hemmati, Gh. Khanbabaie, “Fabrication and Characterization of Pebax®1657/PES Polymer Blend Membranes for CO<sub>2</sub>/CH<sub>4</sub> Separation”, *Journal of Gas Technology*, 1 (1) (2015) 13-18.
- 11- F. Motahari, M. R. Mozdianfard, M. Salavati-Niasari; “Synthesis and adsorption studies of NiO nanoparticles in presence of H<sub>2</sub> acacen ligand, for removing Rhod amine B in wastewater treatment”; *Process Safety and Environment Protection*, 93 (2015) 282-292.
- 12- F. Motahari, M. R. Mozdianfard, F. Soofivand, M. Salavati-Niasari, “Binary Roles of Schiff Bases as Capping Agent and Precursor for Synthesis of Metallic Nickel Ultrafine Nanoparticles”, *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry*, 45 (2015) 1449–1456.
- 13- M. R. Mozdianfard, E. Behranvand; “Fouling at post desalter and preflash drum heat exchangers of CDU preheat train”; *Applied Thermal Engineering*, 89 (2015) 783-794.
- 14- F. Masoodiyeh, J. Karimi-Sabet, A.R. Khanchi, M.R. Mozdianfard; “Zirconia nanoparticle synthesis in sub and supercritical water — particle morphology and chemical equilibria”; *Powder Technology*, 269 (2015) 461–469.
- 15- F. Motahari, M. R. Mozdianfard, F. Soofivand, M. Salavati-Niasar; “NiO Nanostructures: Synthesis, Characterization and Photocatalyst Application in Dye Pollution Wastewater Treatment”; *RSC Adv.*, 4 (2014) 27654-27660.
- 16- F. Masoodiyeh, M.R. Mozdianfard, J. Karimi-Sabet; “Solubility estimation of inorganic salts in supercritical water”; *J. Chem. Thermodynamics* 78 (2014) 260–268.

- 17- H. Molavi, M. M. Moharrer, M. R. Mozdianfard, H. Bahmanyar; "Study of Average Static Hold-up Along a Rotary Disc Contactor in the Presence of Nanoparticles"; *Chem. Biochem. Eng. Q.*, 28 (1) (2014) 27–34.
- 18- S. A. Taher, M. Farshadnia, M. R. Mozdianfard; "Optimal gain scheduling controller design of a pitch-controlled VS-WECS using DE optimization algorithm"; *Applied Soft Computing*, 13 (2013) 2215-2223.
- 19- M.R. Mozdianfard, E. Behranvand, "A field study of fouling in CDU preheaters at Esfahan refinery", *Applied Thermal Engineering*, 50 (2013) 908-917.
- 20- M. Zahedifar, E. Sadeghi, M.R. Mozdianfard, E. Habibi, "Synthesis, characteristics and thermoluminescent dosimetry features of  $\gamma$ -irradiated Ce doped  $\text{CaF}_2$  nanophosphor", *Applied Radiation and Isotopes*, 78 (2013) 125–131.
- 21- H. Bakhshandeh Amnieh, A. Mohammadi, M. Mozdianfard, "Predicting Peak Particle Velocity by Artificial Neural Networks and Multivariate Regression Analysis - Sarcheshmeh Copper Mine, Kerman, Iran", *Journal of Mining & Environment*, 4 (2) (2013) 125-132.
- 22- N. Khoobi, A. Bahmanyar, H. Molavi, D. Bastani, M.R. Mozdianfard, H. Bahmanyar, "Study of droplet behaviour along a pulsed liquid-liquid extraction column in the presence of nanoparticles", *Canadian Journal of Chemical Engineering*, 91 (3) (2013) 506-515.
- 23- Ghorbanpour Arani, A. Haghshenas, S. Amir, M. R. Mozdianfard, M. Latifi, "Electro-thermo-mechanical response of thick-walled piezoelectric cylinder reinforced by boron-nitride nanotubes", *Strength of Materials*, 45 (1) (2013) 102-115.
- 24- A.A. Mosallaie Barzoki, A. Ghorbanpour Arani, R. Kolahchi, M.R. Mozdianfard, A. Loghman, "Nonlinear buckling response of embedded piezoelectric cylindrical shell reinforced with BNNT under electro–thermo-mechanical loadings using HDQM", *Composites Part B: Engineering*, 44 (1) (2013) 722-727.
- 25- F. Masoodiyeh, M.R. Mozdianfard, J. Karimi Sabet; "Modeling thermodynamic behavior of PVTx properties for several water/hydrocarbon systems in near-critical and supercritical conditions", *The Korean journal of Chemical Engineering*, 30 (1) (2013) 201-212.
- 26- S.J. Sadatinejad, M. Heydari, A. Honarbakhsh, K.H. Abdollahi, M.R. Mozdianfard, "Modeling of concentration time in North Karoon river basin in Iran", *World Applied Sciences Journal*, 17 (2) (2012) 194-204.
- 27- H. Karkhanechi, H. Kazemian, H. Nazockdast, M. R. Mozdianfard, S. M. Bidoki, "Fabrication of homogenous polymer-zeolite nanocomposites as mixed-matrix membranes for gas separation", *Chemical Engineering and Technology*, 35 (2012) 1–9.
- 28- M. Farangi, M. Zahedifar, M.R. Mozdianfard, M.H. Pakzamid, "Effects of silicon nanowires length on solar cells photovoltaic properties", *Applied Physics A: materials science and processing*, 109 (2012) 299–306.
- 29- Ghorbanpour Arani, M. Shokravi, S. Amir and M.R. Mozdianfard "Nonlocal electro-thermal transverse vibration of embedded fluid-conveying DWBNNTs", *Journal of Mechanical Science and Technology*, 26 (5) (2012) 1455-1462.
- 30- Ghorbanpour Arani, R. Kolahchi, A. A. Mosallaie Barzoki, M. R. Mozdianfard, M. Noudeh Farahani, "Elastic foundation effect on nonlinear thermo-vibration of embedded double-layered orthotropic graphene sheets using differential quadrature method", *J Mechanical Engineering Science*, 227 (2012) 862-879.
- 31- Honarbakhsh, S. J. Sadatinejad, M. Heydari, M.R. Mozdianfard, "Lag Time Forecasting in a River Basin", *Environmental Science*, 8(1) (2012) 39-50.
- 32- M. Akhbari, H. Batooli, M. R. Mozdianfard, "Comparative study of composition and biological activities of SDE prepare essential oils from flowers and fruits of two *Hypericum* species from central Iran", *Natural Product Research*, 26(3) (2012) 193-202.
- 33- M. R. Mozdianfard, M. Akhbari, H. Batooli, "Comparative study on the antioxidant activities of the different extracts and the composition of the oil extracted by n-hexane from Iranian *Vitex pseudo-negundo*", *Natural Product Research*, 26(23) (2012) 2162-2167.

- 34- Ghorbanpour Arani, R. Bakhtiari, M. Mohammadimehr, M. R. Mozdianfard, "Electromagnetomechanical responses of a radially polarized rotating functionally graded piezoelectric shaft", *Turkish Journal of Engineering and Environmental Sciences*, 36 (1) (2012) 33-44.
- 35- A.A. Mosallaie Barzoki, A. Ghorbanpour Arani, R. Kolahchi, M.R. Mozdianfard, "Electro-thermo-mechanical torsional buckling of a piezoelectric polymeric cylindrical shell reinforced by DWBNNTs with an elastic core", *Applied Mathematical Modelling*, 36 (7) (2012) 2983-2995.
- 36- Ghorbanpour Arani, S. Amir, A.R. Shajari, M.R. Mozdianfard, "Electro-thermo-mechanical buckling of DWBNNTs embedded in bundle of CNTs using nonlocal piezoelectricity cylindrical shell theory", *Composites Part B: Engineering*, 43 (2) (2012) 195-203.
- 37- Ghorbanpour-Arani, V. Sadooghi, M. R. Mozdianfard, M. Mohammadimehr, "Thermo-elastic behavior of a thick-walled composite cylinder reinforced with functionally graded SWCNTs", *Journal of Nanostructures*, 1 (2012) 27-38.
- 38- Ghorbanpour Arani, A. A. Mosallaie Barzoki, R. Kolahchi, M. R. Mozdianfard, A. Loghman, "Semi-analytical solution of time-dependent electro-thermo-mechanical creep for radially polarized piezoelectric cylinder", *Computers and Structures*, 89 (15-16) (2011) 1494-1502.
- 39- Ghorbanpour Arani, M. S. Zarei, M. Mohammadimehr, A. Arefmanesh, M. R. Mozdianfard, "The thermal effect on buckling analysis of a DWCNT embedded on the Pasternak foundation", *Physica E: Low-dimensional Systems and Nanostructures*, 43(9) (2011) 1642-1648.
- 40- S. J. Sadatinejad, S. Angabini, M. Shayannejad, M. R. Mozdianfard, "Using intelligence models to estimate evapotranspiration", *Environmental sciences*, 8(2) (2011) 1-10.
- 41- Bahmanyar, N. Khoobi, M. R. Mozdianfard, H. Bahmanyar, "The influence of nanoparticles on hydrodynamic characteristics and mass transfer performance in a pulsed liquid-liquid extraction column", *Chemical Engineering and Processing: Process Intensification*, 50 (11-12) (2011) 1198-1206.
- 42- Ghorbanpour Arani, M.R. Mozdianfard, V. Sadooghi, M. Mohammadimehr, R. Kolahchi, "Magneto-Thermo-Elastic bBehavior of cylinder reinforced with FG SWCNTs under transient thermal field", *Journal of Solid Mechanics*, 3 (1) (2011) 9-18.
- 43- Dehghani Kiadehi, M. Jahanshahi, M. Mozdianfard, G. R. Vakili-Nezhad, R. Jabari Seresht, "Influence of the solution temperature on carbon nanotube formation by arc discharge method", *Journal of Experimental Nanoscience*, 6(4) (2011) 432-440.
- 44- H. Bakhshandeh, M. R. Mozdianfard, A. Siamaki, "Predicting of blasting vibrations in Sarcheshmeh copper mine using neural network", *Safety Science*, 48 (3) (2010) 319-325.
- 45- Ghorbanpour Arani, Z. Khodami Maraghi, M. R. Mozdianfard, A. R. Shajari, "Thermo-piezo-magneto-mechanical stresses analysis of FGPM hollow rotating thin disk", *Int. J. Mech Mater. Des.*, 6 (4) (2010) 341-349.
- 46- M.M. Abolhasani, A. Arefazar, M. R. Mozdianfard, "Effect of dispersed phase composition on morphological and mechanical properties of PET/EVA/PP ternary blends", *J. Polymer Science: Part B: Polymer Physics*, 3 (1) (2010) 251-259.

### ***Conference articles***

- 1- H.R. Taammoli, F. Masoodiyeh, M.R. Mozdianfard, "Cost-effective desalination plants using nanofiltration process", *Iran water and wastewater science and engineering congress*, Tehran, 2016.
- 2- M.R. Mozdianfard, E. Behranvand, "Fouling at middle-section heat exchangers of CDUs' preheat trains (post desalter and preflash drum exchangers)", *The 8<sup>th</sup> national heat exchanger conference*, Tehran, 2016.

- 3- H.R. Taammoli, F. Masoodiyeh, M.R. Mozdianfard, "Reverse osmosis concentrate management technologies for desalination plants", The 8<sup>th</sup> National Conference and Exhibition on Environmental Engineering, Tehran, 2016.
- 4- H.R. Taammoli, F. Masoodiyeh, M.R. Mozdianfard, "Two stages reverse osmosis for zero and near zero liquid discharge of desalination plants", The 8<sup>th</sup> National Conference and Exhibition on Environmental Engineering, Tehran, 2016.
- 5- M. Omrani, M.R. Mozdianfard, S.A. Razavi, "Investigation of carbon black nanoparticles healthy challenges at working environment", 3<sup>th</sup> International conference on new research achievements in chemistry and chemical engineering, Tehran, Iran, Sep. 2016.
- 6- S. A. Razavi, Torabi, M. Shirazi, Y. Bahrami, M.R. Mozdianfard, "Improving safety of chemical powder systems using master-batch in polymer and petrochemical industries", The first International conference on master batch and polymeric compound, Shiraz, Iran, 2016.
- 7- K. Rezaei, V. Aziznezhad, M.R. Mozdianfard, "Risk analysis of steam generation at the 5<sup>th</sup> refinery of south Pars Gas Company using HAZOP procedures", The first International conference on engineering and applied sciences, Dubai, UAE 2016.
- 8- K. Rezaei, V. Aziznezhad, M.R. Mozdianfard, "Risk analysis of seawater desalination unit at the 5<sup>th</sup> refinery of South Pars Gas Company using HAZOP procedures", 2<sup>nd</sup> International conference on engineering and applied sciences, Istanbul, Turkey, 2016.
- 9- H. Ebrahimi, Sh. Daneshpzhoooh, M.M. Afsahi, M.R. Mozdianfard, "A study of roasting process mechanism for copper sulphate concentrate (Chalcopyrite)", The international conference in new research of chemistry and chemical engineering, Tehran, Iran, 16 Sep. 2015.
- 10- M.R. Mozdianfard, H.R. Taammoli, F. Masoodiyeh, "Sustainable development in mining and minerals industry", The 2<sup>nd</sup> National conference of planning, protecting and conserving environment and stable development, Tehran, Iran, Feb. 15, 2015.
- 11- S. Mosleh, M. Hemmati, Gh. Khanbabaei, M. R. Mozdianfard, "Gas Transport Properties of Pebax®1657/Matrimid 5218 Blend Membranes", The 15<sup>th</sup> Iranian National Congress of Chemical Engineering (IChEC 2015), Tehran, Iran, 17-19 Feb. 2015.
- 12- V. Aziznezhad, K. Rezaei, A. Chenani, M.R. Mozdianfard, H. Shariatimehr, "Process hazard assessment and analysis of cold water supply unit at the 5<sup>th</sup> refinery of South Pars Gas Complex using HAZOP technique", Second national and international conference on oil, Gas, refining and petrochemical industries, Ahvaz, Iran, Nov. 2015.
- 13- S. Mosleh, Gh. Khanbabaei, M. R. Mozdianfard, M. Hemmati, "Effect of Fe-BTC incorporation in Pebax®matrix on membrane performances in pure gas separation", The 2<sup>nd</sup> national conference on membranes and membranes processes, Tehran, Iran, 20-21 May 2015.
- 14- S. Mosleh, Gh. Khanbabaei, M. R. Mozdianfard, M. Hemmati, "Investigation of Pebax®/ZIF-8 mixed matrix membrane preparation method on final morphology", The 2<sup>nd</sup> national conference on membranes and membranes processes, Tehran, Iran, 20-21 May 2015.
- 15- V. Aziznezhad, K. Rezaei, A. Chenani, M.R. Mozdianfard, H. Shariatimehr, "Process hazard assessment of utility water supply unit at the 5<sup>th</sup> refinery of South Pars Gas Complex using HAZOP technique", The 4<sup>th</sup> national conference on process, refining and petrochemical engineering, Tehran, Iran, June 2015.
- 16- K. Rezaei, A. Chenani, M.R. Mozdianfard, F. Masoodiyeh, Gh. Beighzadeh, "Process hazard assessment of sludge removing unit at Gas refinery using HAZOP technique", The 4<sup>th</sup> national conference on process, refining and petrochemical engineering, Tehran, Iran, June 2015.
- 17- Ilyati, M. R. Mozdianfard, "Porphyry copper exploration using ETM Landsat data (Case study: Baft city of Kerman)", The 4<sup>th</sup> international conference of emerging trends in energy conservation, Tehran, Iran, 29-30 Jan. 2015.
- 18- M. Bakhshi Majdar, M. Hayati Ashtiani, M.R. Mozdianfard, "Physiochemical Characterization of Bentonite Clays for Oil Well Drilling Fluids", 1<sup>st</sup> International Conference on Engineering Sciences, Karbala, Iraq, 24-25 Dec. 2014.

- 19- S. Mosleh, M. R. Mozdianfard, M. Hemmati, G. Khanbabai, "Zeolitic Imidazolate Framework-8 (ZIF-8) Preparation: Effect of Synthesized Method and Temperature on Particle Size of ZIF-8 Nanoparticle", 2<sup>nd</sup> International Conference on Nanotechnology (ICN 2014), Istanbul, Turkey, 10-12 April 2014.
- 20- M. Baqeri, M. R. Mozdianfard, M. M. Abolhasani, M. Naebe; "Effects of adding Graphene on the morphology and crystallinity of electrospun Poly(vinylidene fluoride) nanofibers"; Proceedings of 5th International Congress on Nanoscience & Nanotechnology (ICNN2014), Tehran, Iran, 22-24 Oct. 2014.
- 21- M. Baqeri, M. R. Mozdianfard, M. M. Abolhasani, M. Naebe; "Investigating effects of processing condition on morphology and crystallinity of Poly(vinylidene fluoride) electrospun nanofibers"; Proceedings of 5th International Congress on Nanoscience & Nanotechnology (ICNN2014), Tehran, Iran, 22-24 Oct. 2014.
- 22- M. Baqeri, M. R. Mozdianfard, M. Naebe, M. M. Abolhasani, "Effects of solvents ratio on electroactive  $\beta$  polymorph formation in electrospun PVDF nanofibers", 11<sup>th</sup> International seminar on polymer science and technology, Tehran, Iran, 6-9 Oct. 2014.
- 23- M. Baqeri, M. R. Mozdianfard, M. Naebe, M. M. Abolhasani, "Effects of flow rate on electroactive  $\beta$  polymorph formation in electrospun PVDF/Graphene nanofibers", 11<sup>th</sup> International seminar on polymer science and technology, Tehran, Iran, 6-9 Oct. 2014.
- 24- M. Mozdianfard, F. Masoodiyeh, H. R. Taammoli, "Geological disposal of radioactive wastes; opportunity or threat?", The 7<sup>th</sup> National Conference and Exhibition on Environmental Engineering, Tehran, Iran, 6-10 Dec. 2014.
- 25- S. Mosleh, M. R. Mozdianfard, M. Hemmati, G. Khanbabaei, "Pebax®/PES blend membranes for CO<sub>2</sub> separation", 2<sup>nd</sup> International conference of oil, gas and petrochemical, Tehran, Iran, Dec. 18, 2014.
- 26- K. Rezaei, M.R. Mozdianfard, S. Moradian, M. Yaghoobi, N. Bayat, "Application of HAZOP study technique on hazard analysis of dewatering unit at Gas refinery", The third national conference on oil, gas and petrochemicals, Gachsaran, Iran, March 2014.
- 27- F. S. Motahari, M. R. Mozdianfard, M. Salavati, "NiO nanostructures as photocatalyst for removal of colour from wastewater"; The first National Congress on Industrial Catalyses; University of Shiraz; Shiraz; 21-22 February 2013.
- 28- M.R. Mozdianfard, F. Masoodiyeh; "Inherently safer design techniques during preliminary design stage: Index-based approaches "; The 4<sup>th</sup> National Congress on Safety Engineering and HSE Management; Tehran, Feb. 2012.
- 29- Bahmanyar, M.R. Mozdianfard, F. Heidari, N. Khoobi, H. Bahmanyar; "Possibility of Petrochemical Waste Water Treatment Using a Liquid-Liquid Extraction RDC Contactor"; Under review for The 14th Iranian National Chemical Engineering Congress (IChEC 2012); Sharif University of Technology, Tehran, Iran, 16-18 October, 2012.
- 30- F. Masoodiyeh, M.R. Mozdianfard, J. Karimisabet, "Solubility Estimation of Aqueous Species for Zirconium Oxide Nanoparticles", International Congress on Nanoscience & Nanotechnology (ICNN2012), Kashan, Iran, 8–10 September 2012.
- 31- F. Meshkani, M.R. Mozdianfard, M.V. Maghrebi; "Nanotechnology; Positive and Negative Environmental Impact"; International Congress on Nanoscience & Nanotechnology (ICNN2012), Kashan, Iran, 8–10 September 2012.
- 32- H.R. Malekinezhad, H. Bakhshandeh Amnieh, M.R. Mozdianfard, Application of image processing to determine fragment size distribution produced from blasting at Gotvand Olya dam rock-fill mines, 1<sup>st</sup> Iranian Mining Technologies Conference (IMT2012), University of Yazd,
- 33- M.R. Mozdianfard, F. Masoodiyeh, "Fouling of Membrane Bioreactor in Wastewater Treatment", 6<sup>th</sup> National Conference and Exhibition on Environmental Engineering; Tehran; Nov. 2012.
- 34- M.R. Mozdianfard, M.E. Zakerifard; "Investigating electro-membranes processes for water treatment-applications and advantages", 5<sup>th</sup> National Conference and Exhibition on Environmental Engineering; Tehran; Nov. 2011.
- 35- M.E. Zakerifard, M.R. Mozdianfard, M. Filizadeh; "Application of solar distillation units for water treatment", 5<sup>th</sup> National Conference and Exhibition on Environmental Engineering; Tehran; Nov. 2011.
- 36- M.R. Mozdianfard, Z. Jali, F. Masoodiyeh; "Radionuclide waste management in synthetic rock "Synroc": a review"; The 5<sup>th</sup> National Conference and Exhibition on Environmental Engineering; Tehran; Nov. 2011.

- 37- A.R. Jalali, E. Nemati Lay, M. R. Mozdianfard, Evaluation of Equations of State to Predict Interfacial Tension in the Binary Systems, 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island; Nov. 2011.
- 38- F. Shariatmadar, M. R. Mozdianfard; "Nonomaterials, new technologies in water and wastewater treatment"; Int. Conference on Water and Wastewater with Focus on Privatization and Benchmarking; Tehran; Apr. 2011.
- 39- M.R. Mozdianfard, E. Behranvand; "Calculating fouling resistance coefficient in crude oil pre-heat exchangers by a spreadsheet"; 3<sup>rd</sup> Int. Conference on Heat Exchangers in Oil and Energy Industries; Tehran; Nov. 2011.
- 40- M.R. Mozdianfard, E. Behranvand; "A field study on fouling of preheat exchangers in the crude oil distillation units at Esfahan refinery", 3<sup>rd</sup> Int. Conference on Heat Exchangers in Oil and Energy Industries; Tehran; Nov. 2011.
- 41- M. Khajenoori, M. R. Mozdianfard, M. Asghari; "A review on application and restrictions of membrane bioreactors in water and wastewater treatments"; Int. Conference on Water & Wastewater Treatment; Isfahan; Apr. 2010.
- 42- N. Razavi, M. R. Mozdianfard, I. Akbari; "Prediction of concentration polarization using liquid phase activity coefficients"; 13<sup>th</sup> Iranian national chemical engineering congress & 1<sup>th</sup> Int. Regional Chemical and Petroleum Engineering; Kermanshah; Oct. 2010.
- 43- R. Alinia, M. R. Mozdianfard, M. Asghari; "Removal of microorganisms from liquids by means of carbon nanotube membranes"; 2<sup>nd</sup> Conference on Separation Science Engineering (CSSE2010); Tehran; May 2010.
- 44- M. R. Mozdianfard, S. Nadimi, A. Bahri, M. B. Almasi; "Investigating lead particle size distribution in breathing working area at IrankooH Mining Complex-Isfahan", 3<sup>rd</sup> Iranian Mining Engineering Conference and Exhibition; Yazd; Jan. 2010.
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## **WORK**

University of Kashan, Advisor to the Chancellor, International Affair, (Sep. 2016-present)

University of Kashan, Head of Scientific and International Co-operation Office. (Sep. 2014 – Sep. 2016)

I have been appointed as head of the office to improve the scientific and international collaboration of the University of Kashan with other universities and research centres all over the world.

University of Kashan, Head of Water and Sustainable Development Research Centre. (Dec 2011 - Sep. 2016)

Following co-operation with Abfa Kashan in securing a 87Bn Iranian toman from Islamic Development Bank, for the waste treatment plant of Kashan, became interested in water and wastewater studies, lectured and researched on it for more than 4 years at the university and eventually helped setting up a "water research centre". I am presently heading this research centre at the University and have managed to run a successful conference on "Water Crisis in Kashan Plane".

University of Kashan, Head of Chemical Engineering Department (Jun 2007-Jun 11).

I was elected twice as the head of the Chemical Engineering Department, at the University of Kashan, each time for 2 years. During this period, MSc and PhD courses in Chemical Engineering was introduced. I was also responsible for



introducing both Production Engineering Department and Metallurgy and Material Engineering Department at this university and worked actively as a member of the select committee for lecturers.

**Doreen Kashan, Kashan (JUN 04-Dec 06)**

Research & Development Manager, Floatation Project Manager, Advisor to M.D., with a view to improve production systems and implementing an MRP, conducted several projects including improvements to jigs, design, inspection, & installation of 12000 t/y Barite floatation pilot plant for the first time in Iran, optimization of energy consumption, computerization of the laboratory data transfer as part of the integrated MRP, maintenance of the jigs, Raymond mills & other subsidiaries of comminution plants, unit operation drawings, Health and Safety improvements, Bentonite drying and crushing optimisation studies.

**University of Kashan, Kashan. (SEP 03-Present)**

University lecturer lecturing for BSc, MSc and PhD students on Unit Operations, Heat Transfer, Plant Design & Economics, Industrial Management, Technical Language, Environmental Engineering, Water and wastewater treatment, Safety Engineering. I have also supervised numerous technical R & D projects for BSc, MSc and lately PhD students related to Esfahan Refinery, Dorrin Kashan, and several other local and national companies.

**Iran Magnesite, Tehran (MAR 03- APR 04)**

Research & Development manager, worked on a several aspects of production improvements of the magnesium oxide plant in Khorasan. Also, R & D studies with a view to develop new products for the national and international market in the refractory industries.

**Process Industry Companies Representative (SEP 03-JAN 05)**

Upon my return to Iran I successfully negotiated and became Representatives of several major European Companies in Iran and Middle East in Process Industries. These include a manufacturer of Heat Transfer Enhancement equipment in Shell & Tube exchanger from England, a Heat Exchanger and Pressure Vessel manufacturer from Sweden, a Filtration systems manufacturer from Switzerland, Compressor and Vacuum Pump Manufacturer from Switzerland, Distillation and Evaporation systems from Germany. All these companies offer full design, manufacturing and installation services of their products. Co-operative design projects to aid my University students and research interests are also being considered with some of these companies.

**Project Consultant & Finance Co-ordination (SEP 94-DEC 05)**

Served as part time consultant in project evaluation, development and finance in a variety of fields including international commercial, humanitarian, infrastructure, scientific and engineering R & D. The work also included successful negotiation and implementation of various private placement investments off-shore for several clients in excess of US\$ 12 million. This resulted in creation of a fairly resourceful and reliable network of investor introducers, several banking & financial institutions, project contractors and consultants, prominent scientists and engineers, research institutions and universities, both in a national and international scale. I also learnt a great deal about public relations and political lobbying within the UK system when I was involved with such cases which resulted in a parliamentary debate and contribution to a Parliament Select Committee Report as well as arranging and sponsoring a conference with The Foundation for Science and Technology in the UK.

**Torantech Ltd. Surrey. (OCT 96-AUG 02)**

As a Senior Process Consultant Engineer, I worked on several Offshore and onshore oil and gas related projects. My worked involved developmental studies, marketing and contractual negotiations, acid gas removal studies, glycol dehydration and amine gas sweetening units, preparation of process and flow diagrams, gas compression studies, data sheet preparations simulation and costing .

**Association Managers Ltd. Birmingham. (SEP 92-JUL 93)**

Part-time consultant in Project and Association Development and Management. My contribution was mostly at the strategic planning and research.

**Flow Research Evaluation Diagnostics Ltd. Birmingham (DEC 91-AUG 92).**

I was invited by my previous lecturer, Dr N. Thomas to join his team in a company on the University Research Park, to work on an R & D program into the potential for harvesting Wind Energy for Waste Water Treatment in bio-oxidation process for agricultural and municipal effluents. The company won two D.T.I. smart-awards for this work.

Rover Group-Powertrain, Longbridge. Birmingham. (JUN 91-SEP 91)

In association with the School of Manufacturing and Mechanical Engineering at Birmingham University this project was arranged in the local automotive manufacturing industry. A systematic approach to the logistical improvements at Powertrain was suggested, with emphasis of the “just in time” analysis on the “Reception of Parts” sub-system. I was invited by the Rover-Group to continue with the work through a PhD research program.

Bayer U.K. Ltd, Production Division, Bromsgrove. (JUN 89-DEC 89)

I was invited back to Bayer Latex manufacturing plant (see below) while reading for my Chem. Eng. degree to carry out several projects in the Process Engineering, namely; 1) final assessment of the PFD's to be prepared for a Hazop Studies and CAD up to date drawings of the plant in Germany, 2) Latex recovery with by using a novel filtration system leading to design and installation of a especially modified Screw Press for the first time in the latex industry, reclaiming 99 % waste (£120,000 p.a.), 3) effluent treatment improvements, 4) preliminary studies in renovating the plant Process Control Systems from an aging pneumatic system to the latest electronic ones, including demonstration and training aspects. I was offered a position with very good incentives at the company which unfortunately I had to decline to pursue with my graduate studies at Chemical Engineering.

Bayer U.K. Ltd, Production Division, Bromsgrove. (JUL 88-SEP 88)

As an undergraduate Chemical Engineer for industrial training I worked in the Latex production plant in Bromsgrove, mainly at the Process Quality Control and the laboratory, and was allowed to carry out an assessment of the efficiency of various departments in the Production Process Plant at my own request.

Birmingham Settlement & South Birmingham College (SEP 86-JUN 98)

Teaching Chemistry, Physics and Maths as well as Persian in evenings and weekends classes up to A-level standards to both children and adults.

Kashan Wool Production & Spinning Co. Kashan. (MAR 82-JUN 84)

Director- Started as an administrative officer in charge of International Relation, Purchase and Stock Control for the 50-employed company supplying vast textile industries of Kashan and central provinces, later promoted to a member of the Board of Directors and served at this position until I left the country for reading a degree in Chemical Engineering.

Nabi Cooler Production. Kashan (SEP 81-FEB 82)

Design, manufacturing and repair of domestic and small-scale industrial coolers, freezers and fridges.

### **COMPUTER ABILITIES**

Familiar with BASIC, FORTRAN, PASCAL, Database packages such as EXCEL and DELTAGRAPH, Microsoft OFFICE packages and simulation packages of CAPS. Also, familiar with HTML and web authoring packages, and other Multimedia packages such as Flash, Photoshop, Premier, Director, Illustrator, Dream-Weaver and Fireworks.

### **INTERESTS & HOBBIES**

Participative interests in basketball, football, Mountaineering, shooting and hunting. Enjoy camping, travelling, trial bikes, racing, reading and documentary programs. An enthusiastic photographer of nature and landscapes.

### **ADDITIONAL INFORMATION**

HGV clean driving licence.

## **RESEARCH INTERESTS AND PROJECTS UNDERTAKEN**

- 1- Optimization of Production Line for secondary base oil recovery plants-Arian Shimi-Kashan.
- 2- Application of CC-GRP piping system and their suitability for Water and wastewater Distribution Networks-Hobas Switzerland.
- 3- Industrial Effluent Treatment Design- various industrial local plants in Kashan.
- 4- Application of Photovoltaic Cells for Environmental treatments
- 5- Optimizing Jigs Maintenance and comminution production lines in mineral processing-Dorriin Kashan
- 6- Production and Optimization of Bentonite Powder using a Hammer and pendulum Mills- Dorriin Kashan
- 7- Investigating the efficiency of Roller Mills used for Barite Production- Dorriin Kashan
- 8- Domestic Waste Burners and Incinerators
- 9- Technical and economical evaluation of fouling in preheat exchangers of crude oil distillation unit in Esfahan refinery, MSc and PhD studies.
- 10- Pebax/PES/MOF mixed matrix membranes preparation for CO<sub>2</sub>/CH<sub>4</sub>, PhD studies.
- 11- Design and manufacturing of an intelligent system for dewatering oil depots, MSc and PhD studies.
- 12- Kinetics of roasting process for chalcopyrite copper concentrate and optimizing acid dissolution condition, PhD studies.
- 13- Investigating methods of water recovery from effluent of the reverse osmosis system at Esfahan refinery, MSc studies.
- 14- Preparing an additive to reduce pour point of diesel at Esfahan refinery, MSc studies.
- 15- Investigating ferroelectric polymorph induction in PVDF/Graphene nanofibers prepared by electrospinning process, MSc studies.
- 16- A study cobalt adsorption on porous nano-bentonite (Montmorillonite) and activated bentonite, MSc studies.
- 17- Assessment and hazard identification process of the utility unit fifth refinery gas complex using HAZOP technique, MSc studies.
- 18- Preparation and characterization of Ni & NiO nanostructures in presence of new surfactants, MSc studies.
- 19- Solubility estimation of aqueous species resulting from supercritical water hydrothermal synthesis of zirconium dioxide nanoparticles, MSc studies.
- 20- Design of filtration systems in cement plants, MSc studies.

## **REFEREES**

Dr S.A. Taher, Head of Engineering Faculty, Assistant Prof. Of Elec. Eng., University of Kashan, Ghotb-e Ravandi Boulevard, Kashan 87317-51167, IRAN.

Prof A. Zeraat, Head of Human Science faculty, University of Kashan, Ghotb-e Ravandi Boulevard, Kashan 87317-51167, IRAN.

Dr Babak Bonakdarpour, Assistant Prof. Dep. of Chem. Engineering, Amirkabir University of Technology, No. 424 Hafez Ave., Tehran, IRAN.

Prof. T. A. Dean, School of Manufacturing and Mechanical Engineering, University of Birmingham, Bristol Road, Edgbaston, Birmingham, B15 2TT, England.