

Curriculum Vitae

Dr. M. A. MUSTAFA

BSc, MSc, PhD, MSES, AMIChemE

1 PERSONAL DETAILS

Name	Dr. Mustafa Abbas Mustafa
Date of birth	12 September, 1973
Place of birth	Khartoum, Sudan
Gender	Male
Nationality	Sudanese
Marital status	Married with three children
Academic status	Associate Professor
Department	Chemical Engineering
Faculty	Engineering
Email	Dr.Mustafa.Abbas@gmail.com
Mobile	00249121714980

2 QUALIFICATIONS

Year	Degree	University	Country
2001	PhD in Chemical Engineering	Nottingham	United Kingdom
1997	MSc in Process and Project Engineering	Nottingham	United Kingdom
1995	BSc in Chemical Engineering	Khartoum	Sudan

3 ACADEMIC APPOINTMENTS

From	To	Title	Employee
9/6/2013	14/6/2013	Visiting Scholar	Linköping University, Sweden
5/1/2013	15/1/2013	Visiting Scholar	Texas A&M University at Qatar
2011	To date	Associate Professor	Department of Chemical Engineering, Faculty of Engineering, The University of Khartoum
2007	2011	Assistant Professor	Department of Chemical Engineering, Faculty of Engineering, The University of Khartoum
2006	2007	Research Associate	School of Chemical Engineering and Analytical Science, The University of Manchester, Manchester, United Kingdom
2002	2004	Research Fellow	Department of Biochemical Engineering, University College London, London, United Kingdom
1997	2001	Tutor	School of Chemical, Environmental and Mining Engineering (SChEME), The University of Nottingham, Nottingham, United Kingdom

4 PROFESSIONAL COURSES, WORKSHOPS AND PRACTICAL TRAINING ATTENDED

4.1 Professional Courses

Year	Course	Place
2009	Educational Preparation	University of Khartoum
2016	Nanotechnology for Water and Wastewater Treatment	UNESCO-IHE Delft, Netherlands

4.2 Workshops

Year	Workshops	Place
2016	UNESCO Expert Group Meeting “Contribution of Science, Technology and Innovation (STI) to an escape from the middle income trap under conditions of economic difficulties ”	Ministry of Higher Education and Scientific Research Khartoum, Sudan
2016	Decision Making Techniques in Petroleum and Energy Business Management	Energy Research Centre, Faculty of Engineering, University of Khartoum
2016	Scientific Research for the Development of the Oil and Gas Industry in Sudan	Al Sharga Hall, University of Khartoum
2015	Problems of Cathodic Protection in Petroleum Pipelines and Storage Tanks	Ministry of Petroleum, Khartoum, Sudan
2015	Advances in Materials Science (KWAMS15)	Department of Physics, University of Khartoum
2014	Occupation Safety, Use and Standard Specification of Sodium Cyanide and Mercury	Sudanese Organization for Standards and Metrology, Sudan
2012	Towards Coordinating a Partnership to Develop the Bottled Water Industry	Sudanese Organization for Standards and Metrology, Sudan
2012	Processing of High TAN Crude	Ministry of Petroleum, Khartoum, Sudan
January 6-8, 2012	Catalysis and Materials for Hydrocarbon Conversion	Texas A&M University at Qatar, Doha, Qatar

4.3 Practical Training

Year	Training	Place
May 1996	Port Sudan Refinery	Port Sudan, Sudan
May 1995	Kenana Sugar Company Limited	Kenana, Sudan
June 1994	Agriproducts Contract Drying Limited	Somerset, United Kingdom

1994	Khartoum Tannery	Khartoum, Sudan
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5 ACADEMIC AND ADMINISTRATIVE RESPONSIBILITIES AND ACTIVITIES

5.1 University of Khartoum

From	To	Position	Department/Office
1/2016	3/2016	Head	Committee to prepare a proposal for Materials Research and Nanotechnology Center (Faculty of Engineering)
3/11/2015	15/11/2015	Acting Vice Dean	Vice Dean of the Faculty of Engineering for Scientific Affairs
11/2015	3/2016	Member	Scientific Committee for the seventh conference of Graduate College for the Basic Science and Engineering
2015	To date	Head	Analytical Laboratory (Chem. Eng. Dept.)
5/12/2011	30/11/2014	Head	Chemical Engineering Department
5/12/2011	30/11/2014	Member	University of Khartoum Senate
5/12/2011	30/11/2014	Member	Faculty of Engineering Board
5/12/2011	30/11/2014	Member	Faculty of Engineering Research Board
5/12/2011	30/11/2014	Member	Scientific Committee of the Institute of Building and Road Research
2007	2012	MSc Coordinator	Chemical Engineering Department
2010	2011	Member	Engineering Library Committee
2011	2011	Chairman	Development of BSc Biochemical Engineering Program
21/8/2011	29/8/2011	Acting Head	Department of Chemical Engineering
2011	2011	Member	Faculty Website Development Committee
19/9/2010	23/9/2010	Acting Head	Department of Chemical Engineering
31/10/2010	4/11/2010	Acting Head	Department of Chemical Engineering
2010	2011	Head	Examination Committee (Chem. Eng.)
2009	2010	Head	BSc Curriculum Development Committee (Chem. Eng.)
2010	2010	Member	MSc Curriculum Development Committee (Chem. Eng.)
2010	2010	Member	Safety and Security Procedure Review Committee (Faculty of Eng.)
2007	2008	Secretary	Chemical Engineering Department Board

6 HONORS, SCHOLARSHIPS & RESEARCH GRANTS

6.1 Scholarships

Duration	Purpose	University/Country	Scholarship
1997-2000	PhD	Nottingham, UK	University of

			Nottingham
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6.2 Awards

Duration	Purpose	University/Country	Award
2016	Scientific and Academic Excellence	Khartoum/Sudan	University of Khartoum

7 TEACHING AND EXAMINATION EXPERIENCES

7.1 Teaching: Undergraduate

No.	Course title	Credit Hours	Year (Semester)	Department
1	Kinetics and Reactor Design I	3	5th(1 st)	Chem. Eng.
2	Kinetics and Reactor Design II	3	5th(2 nd)	Chem. Eng.
3	Biochemical Engineering	3	5th(1 st)	Chem. Eng.
4	Nanotechnology	3	5th(1 st)	Chem. Eng.
5	Reactor Design for Petrochemical Processes	3	5th(1 st)	University of Alsalam
6	Chemical Reaction Kinetics for Petrochemicals	3	5th(1 st)	University of Alsalam

7.2 Teaching: MSc level

No.	Course title	Credit Hours	Semester	Department
1	Catalysis and Design of Catalytic Reactors	3	1 st	Chemical Engineering
2	Scale up and Scale down in Chemical Engineering	3	2 nd	Chemical Engineering
3	Biomass Energy	3	1 st	Mechanical Engineering
4	Natural Gas Processing	3	1 st	Petroleum and Natural Gas

7.3 Examination: Final Year BSc Project

Year	Status	No. of Students	University
2007 – 2016	Internal Examiner	270	Khartoum

7.4 Examination: MSc Thesis

Year	Status	No. of students	University
2007- date	Internal Examiner	30	Khartoum

8 SUPERVISION OF RESEARCH

8.1 BSc Projects

Years	Department	University	No. of Students
2007-2016	Chemical Eng.	Khartoum	82
*Final year BSc Project = 46 students, 4 th Year Project = 36 students			

8.2 MSc

No	Student	Thesis Title	Date of Award
1	Areej Abbas Abubaker	Mathematical Modeling and Simulation of an Industrial Propylene Polymerization Reactor	2016
2	Yousief Mohammed Noor Mohamed Ahmed	Comparative Study between Chrome Recycling and Traditional Production of Wet Blue Leather	2016
3	Namarig Abdalla Mohamed Ahmed	Developing regression models for the characterization of a spent Fluid Catalytic Cracking Catalyst	2016
4	Limya Hussain Mustafa	The Regression Analysis of Production of Bio-oil from Biomass by fast Pyrolysis	2015
5	Abualbasher Awad Eisa Adam	Electrolytic Treatment of Chrome Wastewater	2015
6	Amira Adam Badr Mohammed	The Effect of Some Biological Pre-treatment Techniques on Biogas Production from Food Waste	2015
7	Rawnag Ahmed Hussein Ali	A Comparative Pharmaceutical Evaluation of Amlodipine (5mg)	2015
8	Reem Mirgani AbdelKariem	Recovery of Metals from Residual Fluidized Catalytic Cracking (RFCC) Waste Catalyst	2014
9	Nazik Abdallah Mohammed	CFD Simulation of Khartoum Residual Fluidized Catalytic Cracking (RFCC) Unit	2014
10	Khalid Abdelraheem	Performance and Combustion Characteristics of Diesel–Ethanol Blend Fuelled Engine	2013
11	Mohammed Abdel Gadir Hassan	Performance and Combustion Characteristics of Diesel–Jatropha Blend Fuelled Engine	2013
12	Mohammed Ibrahim Elhaj Hussien	Biodiesel Production from Colocynthis Oil	2012
13	Muaz Mohammed	Simulation of Continuous Catalytic	2012

	Mohammed Khaeir	Reforming Unit of Khartoum Refinery	
14	Salim Mustafa Dafaallah	Synthesis and Characterization of Albite Zeolite	2012
15	Nuha Ahmed Elhassen Osman	Simulation of Hydrotreating Unit in Khartoum Refinery	2011
16	Nagwa Boshara Georgeous	Modeling and Measurement of Performance of a Batch Reactor using Electrical Conductivity	2010
17	Arman Mohammed Abdalla Ahmed	Saponification: A Comparative Kinetic Study in a Batch Reactor	2010
18	Asma Ali Mohamed Ali	Control System Applications in a Heat Exchanger	2008
19	Suliman Awad Yousif Osman	Comparative Study between Total Quality Management and Six Sigma (Case Study: Altawfiq Soap Factory (Omdurman – Sudan))	2008

8.3 PhD

No	Student	Thesis Title	Expected Date of Award
1	Sahar Abdallah Salih	Improved Control Strategy of Residue Fluidized-bed Catalytic Cracking Unit	2014
2	Asma Ali Mohamed Ali	Integration of Lignocellulosic Biofuels into Existing Petroleum Refinery	2017
3	Dalia Ahmed Mohammed Osman	Reducing Energy Consumption in the Cement Industry Using ZnO Nanoparticles	2017
4	Esraa Sheikheldin Mohamed	Biodiesel Production from Algae Oil using Nano Zinc Oxide Catalyst	2017
5	Ihab Mohammed Salih Hassan	Using Nanomaterials for drinking water decontamination	2016
6	Faisal Abdu Hezam Khaled	Synthesis and Characterization of Magnetic Carbon Nanotubes Composites	2018
7	Haifa Shamseldien Mohamed Salim	Chemical Separation and Isolation of Calcium Naphthenate Deposits in Sudanese Crude Oil	2019
8	Shireen Abdul Wahab Hassan	Improvement of the Demulsification Process in Crude Oil using Silica Nano particles	2018
9	Rasha Adam Mohammed	Water Disinfection using Nano	2019

	Shomeian	Particles	
10	Shymaa Suliman Mohammed Karam	Techno-economic Analysis of The production of Bio-fuel Co-products within a Sugar Factory	2019

9 PUBLICATIONS

9.1 Journal Article			
1	Eisa, A. A. and Mustafa, M.A. (2016). Electrolytic Treatment of Chrome Wastewater, Journal Africa Scientific,		
2	Mustafa, M.A. (2015). Optimal operation and control of batch distillation columns using Reinforcement Learning, Sudan Engineering Society Journal, (accepted)		
3	Osman, D. A and Mustafa, M.A. (2015). Synthesis and Characterization of Zinc Oxide Nanoparticles using Zinc Acetate Dihydrate and Sodium Hydroxide, Journal of Nanoscience and Nanoengineering , 1, 4, 248-251		
4	Hussein, R.A. and Mustafa, M.A. (2015). A Comparative Pharmaceutical Evaluation of Amlodipine (5mg), University of Khartoum Engineering Journal, 5, 1, 26-29.		
5	Mustafa, M.A. and Atilhan, M., (2015). Investigation on the Deactivation of Residue Fluid Catalytic Cracking (FCC) Catalyst, International Journal of Materials Chemistry and Physics, 1, 2, 146-155.		
6	Salih, S. S., Mustafa, M. A. and Gasmelseed, A. G. (2014). Improved Control Strategy of Residue Fluidized-bed Catalytic Cracking Unit. Journal of Applied Industrial Sciences, 2, 2, 46-57.		
7	Mustafa, M.A. and Wilson, J.A. (2013). A detailed approach to Reinforcement Learning: A semi-batch reactor case study, Sudan Engineering Society Journal, 59, 1, 21-32.		
8	Mustafa, M.A. and Wilson, J.A. (2012). An approach towards the design of a Petlyuk column using HYSYS, Sudan Engineering Society Journal, 58, 1, 35-44.		
9	Du, C., Campbell, G.M., Misailidis, N., Mateos-Salvador, F., Sadhukhan, J., Mustafa, M. , and Weightman, R.M. (2009). Evaluating the feasibility of commercial arabinoxylan production in the context of a wheat biorefinery principally producing ethanol. Part 1. Experimental studies of arabinoxylan extraction from wheat bran, Chemical Engineering Research and Design, 87, 1232–1238.		
10	Misailidis, N., Campbell, G.M., Du, C., Sadhukhan, J., Mustafa, M. , Mateos-Salvador, F., and Weightman, R.M. (2009). Evaluating the feasibility of commercial arabinoxylan production in the context of a wheat biorefinery principally producing ethanol Part 2. Process simulation and economic analysis, Chemical Engineering Research and Design, 87, 1239–1250.		

11	Sadhukhan, J., Mustafa, M.A. , Misailidis, N., Mateos-Salvador, F., Du, C., Campbell, G.M. (2008). Value analysis tool for feasibility studies of biorefineries integrated with value added production, <i>Chemical Engineering Science</i> , 63(2), 503-519.
12	Mustafa, M.A. , Washbrook, J., Titchener-Hooker, N.J., and Farid, S.S. (2006). Retrofit decisions within the biopharmaceutical industry: An EBA case study. <i>Transactions of the Institution of Chemical Engineers, Part C: Food and Bioproducts Processing</i> , 84(C1), 84-89.
13	Mustafa, M.A. , Washbrook, J., Lim, J., Zhou, Y., Titchener-Hooker, N.J., Morton, P., Berezenko, S., and Farid, S.S. (2004). A software tool to assist business-process decision making in the biopharmaceutical industry, <i>Biotechnology Progress</i> , 20 (4), 1096-1102.
9.2 Conference Article/Poster	
1	Ali, A., Mustafa, M.A. and Yassin, K. A. (2016). Techno-economic analyses of co-processing bio oil with conventional FCC feed in petroleum refinery, Annual Conference for Postgraduate Studies and Scientific Research, University of Khartoum.
2	Limya Hussein and Mustafa, M.A. (2016). Developing Regression Models for the Production of Bio-oil from Biomass through Fast Pyrolysis, Annual Conference for Postgraduate Studies and Scientific Research, University of Khartoum.
3	Mustafa, M.A. and Wilson, J.A. (2012). Application of Reinforcement Learning to Batch Distillation, The Sixth Jordan International Chemical Engineering Conference, 12-14 March 2012, Amman, Jordan.
4	Mustafa, M.A. and Wilson, J.A. (2012). Optimum operation and control of a batch chemical process using Reinforcement Learning, Annual Conference for Postgraduate Studies and Scientific Research, University of Khartoum, February 24-27.
5	Mustafa, M.A. (2008). Integrated exploitation of wheat for non-food products: An integration and assessment framework, Alexander von Humboldt Foundation, Khartoum, November 23-26.
6	Mustafa, M. , Washbrook, J., Farid, S., Lim, J., and Titchener-Hooker, N. (2003). Novel software tools for business-process assessment of downstream processing options, 11 th European Congress on Biotechnology, Basel, Switzerland, August 24-29.
7	Mustafa, M.A. , Washbrook, J., Lim, J., Farid, S., and Titchener-Hooker, N.J. (2003). Novel software tools for evaluating integration within a downstream process: A case study of expanded-bed adsorption vs. packed-bed adsorption, 225 th American Chemical Society National meeting, New Orleans, Louisiana, USA March 23-27.

8	Martinez, E.C., Wilson, J.A., and Mustafa, M.A. (1998). An incremental learning approach to batch unit optimization. IChemE Research Event, Newcastle, UK.
9.3 Report	
1	Mustafa, M.A. , Misailidis, N., Mateos-Salvador, F., Du, C., Sadhukhan, J., Campbell, G.M. (2007). Feasibility of co-producing arabinoxylans and ethanol in a wheat biorefinery. Project Report No. 425, Home-Grown Cereals Authority, Caledonia House, 223 Pentonville Road, London, N1 9HY, UK. (www.hgca.com)

10. TECHNICAL STUDIES

Year	Project
2010	Took the lead in the coordination of a collaborative project involving the University of Khartoum and the Marble Engineering Company which involved the manufacture of Butadiene. Furthermore, I played a key role in the preparation of a prefeasibility study.

11. COMMUNITY SERVICE

11.1 National/International Organizations				
From	To	Position	Organizations	Committee
5/7/2014	To date	Member	Sudanese Organization for Standards and Metrology	Technical Committee for Chemicals and Chemical Industries
2015	To date	Head	Sudanese Consumers Protection Society	Engineering Committee
11.2 Curriculum Development				
From	To	Position	University	Task
June 2014	September 2014	Member	University of El Imam El Mahadi	Review and Development of BSc curriculum for the Chemical Engineering Department
June 2014	September 2014	Member	University of El Imam El Mahadi	Proposal for a complete new MSc curriculum in Chemical Engineering

2016	2016	Member	University of Kordofan	Review and Development of BSc curriculum for the Chemical Engineering Department
11.2 Journals (Review)				
From	To	Role	Journals	
Transactions of the American Society of Agricultural and Biological Engineers (ASABE)				
Iranian Journal of Chemistry and Chemical Engineering				
Sudan Engineering Society Journal				
University of Khartoum Engineering Journal				
Journal of Engineering and Computer Science, Sudan University of Science and Technology (SUST)				
University of El Imam El Mahadi Scientific Journal				
11.3 Industrial Courses				
From	To	Role	Course	Location
2014	2014	Instructor	Natural Gas Processing	Petroleum Technical Center (Sudapet Company Ltd.)
2014	2014	Instructor	Control Room Operator (Distributed Control System)	Petroleum Technical Center (Sudapet Company Ltd.)
11.4 Invited Speaker				
Date	Topic		Location	Description
12/5/2016	Nanotechnology		International University of African	Engineer's Week and University Golden Jubilee Celebrations
21/7/2016	Nanotechnology for a Sustainable and Eco-friendly Future		Centre of Environmental Strategy, University of Surrey, UK	Seminar

12. COMPUTATION SKILLS

No.	Type	Name
1.	Simulation Packages	Aspen HYSYS and ChemCad
2.	Programmable languages	ACSL, MATLAB and Java (basic knowledge)
3.	Computational Fluid Dynamics	FLUENT
4.	Artificial Intelligence	XI-PLUS and MATLAB Neural Network Toolbox
5.	Mathematical Aid	Maple
6.	Data Acquisition Software	LabView
7.	Simulation Tools	Extend
8.	Professional Writing	Microsoft Office

13. ANALYTICAL EQUIPMENT

No.	Type
1.	X-ray Diffraction
2.	X-Ray Fluorescence
3.	Atomic Absorption Spectroscopy
4.	High-performance Liquid Chromatography
5.	Ultraviolet-visible Spectroscopy
6.	Flame Photometer

14. LANGUAGES

Language	Reading	Writing	Speaking
Arabic	Excellent	Excellent	Excellent
English	V. Good	V. Good	V. Good
French	beginner	beginner	beginner

15. Professional Memberships

Member of the Sudanese Engineering Society (MSES)
Associate Member of the Institute of Chemical Engineering (AMIChemE)
Member of the Chemical Institute of Canada