

PROF. YOUSEF MOHAMMAD AL-ROOMI

College of Engineering and Petroleum,

Chemical Engineering Department,

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PROFESSIONAL PROFILE

A chartered Chemical Engineer; with over 26 years' experience constituting both academic and industrial sectors.

Major achievements are centred on research, and professional contributions to the field of Polymer Technology (Synthesis, Analysis Characterization and Application), Water Technology (Scaling and Corrosion), Kinetics and Modelling, Desalination, Thermodynamics, Process design and applications.

EDUCATIONAL QUALIFICATIONS

DEGREE	FIELD	INSTITUTION	YEAR
Ph. D.	CHEMICAL ENGINEERING Minor in Industrial Engineering & Operational Research. Internal Minor in Finance.	CORNELL UNIVERSITY NEW YORK	1992 – 1996
M. S.	CHEMICAL ENGINEERING	COLUMBIA UNIVERSITY NEW YORK	1990 – 1992
M. S.	APPLIED CHEMISTRY Honor Role	UNIVERSITY OF MISSOURI- COLUMBIA, COLUMBIA	1985 – 1990

PROFESSIONAL EXPERIENCE

INSTITUTION	DESIGNATION	YEAR
KUWAIT UNIVERSITY, Kuwait (A.G.)	PRESIDENT	2022
Chemical Engineering Department, College of Engineering & Petroleum, Kuwait University	PROFESSOR	2019 - Present
Fourth International Conference on Energy Research & Development [ICERD-4]	SESSION CHAIR	2008
Chemical Engineering Department, College of Engineering & Petroleum, Kuwait University	VICE-DEAN FOR ACADEMIC AFFAIRS & RESEARCH	2006 – 2007
Centre of Engineering, Laboratory Testing & Calibration, (CELTC), Kuwait University	MANAGER	2005 – 2007
Third International Conference on Energy Research & Development [ICERD-3]	SESSION CHAIR	2005
Arab Atomic Energy Agency	KUWAIT'S NATIONAL REPRESENTATIVE	2005 - Present
Office of the Industrial Economic Centre	DIRECTOR	1999 - Present
Chemical Engineering Department, College of Engineering & Petroleum, Kuwait University	CHAIRMAN	1997 – 2001

Petroleum Engineering Department, College of Engineering & Petroleum, Kuwait University	CHAIRMAN	1997 – 1998
Chemical Engineering Department, College of Engineering & Petroleum, Kuwait University	ASSOCIATE PROFESSOR	2006 – 2019
Chemical Engineering Department, College of Engineering & Petroleum, Kuwait University	ASSISTANT PROFESSOR	1997 – 2006
National Industries Group	TECHNICAL AND DEVELOPMENT PROJECT MANAGER	1997
CORNELL UNIVERSITY Chemical Engineering Department	TA two years for Chem E – 643 Graduate level class) RA for 3 years	1992 – 1996
MEDICAL SCHOOL UMC Department of Chemistry and Dept. of Molecular Biology	<i>RA for 3 years in Bio-Analytical Lab and Molecular Biology Lab</i>	1985 - 1990

PROFESSIONAL ACTIVITIES

DESIGNATION	DETAILS	YEAR
Article Reviewer	Corrosion Science	2018
Article Reviewer	Polymer Bulletin	2000 - 2019
Article Reviewer	Journal of Applied Polymer Science	2000 - 2015
Article Reviewer	The Open Petroleum Engineering Journal	2017
Article Reviewer	Petroleum	2017

ACADEMIC COURSES TAUGHT

S. NO.	INSTITUTION	COURSE NO.	COURSE NAME	TYPE	LEVEL	YEAR
1	Kuwait University	ChE – 591	Special Topics in Techno Economics	Academic	Graduate	1997 – Present
2	Kuwait University	ChE – 590	Special Topics in Process System Engineering	Academic	Graduate	
3	Kuwait University	ChE – 544	Advanced Mass Transfer	Academic	Graduate	
4	Kuwait University	ChE - 491	Plant-Design	Academic	Undergraduate	
5	Kuwait University	ChE – 209	Engineering Economy	Academic	Undergraduate	
6	Kuwait University	ChE – 308	Numerical Methods for Engineers	Academic	Undergraduate	
7	Kuwait University	ChE - 463	Waste-Water Treatment	Academic	Undergraduate	
8	Kuwait University	ChE – 462	Biochemical Engineering	Academic	Undergraduate	
9	Kuwait University	ChE – 473	Polymer Engineering	Academic	Undergraduate	
10	Kuwait University	ChE – 495	Student Project	Academic	Undergraduate	
11	Kuwait University	ChE – 395	Engineering Training	Academic	Undergraduate	
12	Kuwait University	ChE – 345	Mass Transfer	Academic	Undergraduate	
13	Kuwait University	ChE – 630	Materials Science	Academic	Undergraduate	

THESIS SUPERVISION

THESIS TITLE	TYPE	ROLE	YEAR
Hussain Zainuddin Magar, “Design and Application of Novel Scale and Corrosion Inhibitors”	PhD	Co-Supervisor	2019
Zainab Q. Al-Kandary, “Scale Inhibitors”	Graduate	Supervisor	2012
Abrar M. AlSaffar, “Scaling and Antiscalants”	Graduate	Supervisor	2012
Eman Al-Shammari, “Antiscalants and their Application”	Graduate	Supervisor	2012
Mona E. Al-Enezi, “Scaling and Antiscalants”	Graduate	Supervisor	2012
Dalal Khalifa Al-Jadei, “Determining the ability of Scale Inhibitors to prevent the Precipitation of Calcium Sulfate and Calcium Carbonate”	Graduate	Supervisor	2012
Nouf Al-Otaibi, “Scales”	Graduate	Supervisor	2012
Yousef Behbehani, “Aniscalant Inhibition Effect for Copper Pipes”	Graduate	Supervisor	2012
Aseel Majdi Al-Majed, “YMR-Polymers as scale inhibitors for CaSO ₄ & CaCO ₃ Scales”	Graduate	Supervisor	2010
Ohood Ali Al-Moli, “Inhibition Properties of YMR-Polymers”	Graduate	Supervisor	2010
Rana H. Al-Roomi, “Modelling the Kinetics of Step Homopolymerization reactions – an assessment of different approaches”.	Graduate	Supervisor	2010
Sami R. Al-Kandari, “Use of Refractive Index in Estimating Thermophysical Properties of Hydrocarbons and Petroleum Fractions”	Graduate	Supervisor	1999

UNIVERSITY, COMMUNITY SERVICE AND SHORT COURSES

S. NO.	INSTITUTION	COURSE NAME	TYPE
1	Local Industry in Kuwait	Process Engineering Design	Short Course
2	Local Industry in Kuwait	Operational Planning and Management of Services and Manufacturing Operation	Short Course
3	Local Industry in Kuwait	Safety Behaviour in Chemical Production Sites, and Local Emergency Planning	Short Course
4	Local Industry in Kuwait	Training Course for Under Development Engineers	Short Course
5	Local Industry in Kuwait	Refinery Management	Short Course
6	Local Industry in Kuwait	Introduction to Refinery Technology	Short Course
7	Local Industry in Kuwait	Pressure Vessel Design Using ASME Code	Short Course
8	Local Industry in Kuwait	Applied Industrial Water Technology	Short Course
9	Local Industry in Kuwait	Professional Development and Creative Problem Solving for Engineers	Short Course
10	Local Industry in Kuwait	Applied Chemical Engineering	Short Course
11	Local Industry in Kuwait	Engineering Aspects of Unit Operation and Performance	Short Course
12	Local Industry in Kuwait	Principle of Gas Chromatography	Short Course
13	Local Industry in Kuwait	Pressure Relief Systems	Short Course
14	Local Industry in Kuwait	Planning and Economics of Refinery Operations	Short Course
15	Local Industry in Kuwait	General Refinery Knowledge Program	Short Course
16	Local Industry in Kuwait	Professional Development for Engineers, (2008-2011).	Short Course

COMMITTEES

S. NO.	COMMITTEE NAME	DESIGNATION	LEVEL
1.	Deans Committee	Chairman	Kuwait University
2.	Board of Trustees of Research Institute	Member	Kuwait University
3.	Policy and Program Committee	Member	Kuwait University
4.	Ministry of Defence Committee	Member	On Engineering Excellence
5.	Ministry of Commerce & Industry Committee	Member	On Amendment to the Share Holding Company's Laws
6.	Safety & Security Committee	Member	Department
7.	Graduate Program Committee	Chair	Department
8.	New Campus Follow-up Committee	Member	Department
9.	Industrial Authority Committee	Member	Standards of Metal Pipes
10.	Curriculum Development Committee (ABET)	Chair	Department
11.	Research, Sabbaticals & Scientific Missions Committee	Member	Department
12.	Student Affairs Committee	Member	Department
13.	Office of Consultation and Career Development (OCCD) Committee	Member	College
14.	Annual Report Committee	Member	Department
15.	Scholarship Committee	Chair	Department
16.	Appointment Committee	Member	Department
17.	Promotion Committee	Member	Department
18.	Equipment and Laboratories Committee	Member	Department
19.	Budget Committee	Member	Department
20.	Undergraduate Program Committee (UPC)	Member	Department
21.	University Council of Mechatronics	Member	College
22.	Evaluation Committee	Member	Department

SYMPOSIUM PREPRINTS OF ACS ANNUAL MEETINGS

TITLE	TYPE	VOLUME / PAGE NO	YEAR
Use of Velocity of Sound in Estimating Thermodynamic Properties of Reservoir Fluids and Petroleum Mixtures	Publication: Preprints of Division of Petroleum Chemistry Symposia, Ameri. Chem. Society (ACS)	Vol. 45, No. 4, pp. 661-664	August 2000
Minimum Laboratory Data for Properties of Petroleum Fractions and Crude Oils	Publication: Preprints of Division of Petroleum Chemistry Symposia, Ameri. Chem. Society (ACS)	Vol. 45, No. 4, pp. 570-573	August 2000
Compositional Analysis of Petroleum Products	American Chemical Society (ACS) Annual Meeting, Division of Petroleum Chemistry, Chicago, U.S.A.	Volume 46, No. 4, pp. 391-394	August 2001
Predicting Solubility of Hydrogen in Petroleum Fuels	Presented at the 230 th ACS Annual Meeting, Division of Petroleum Chemistry Washington, D. C.	Vol. 50, No. 4, pp. 389-390	August 2005
A Predictive Model for the Rate of Dissolution of Oil Spill and its Toxic Components in Sea Water	Presented at the 230 th ACS Annual Meeting, Division of Petroleum Health and Safety Washington, D. C.	Vol 230,	August 2005

BOOK

BOOK NAME	PUBLISHER	CHAPTER TITLE	YEAR	ISBN NO.
Hydrotreating /Hydrocracking Technologies: Status and Future Challenges	American Chemical Society, ACS, Washington, D.C. Oxford University Press	Solubility of Hydrogen and Light Gases in Petroleum Fractions and Coal Liquids	2010	ISBN – 13: 9780841274174
Chemical Engineering in Oil and Gas Production and Other Complex Subsurface Processes American Institute of Chemical Engineers (AIChE) Annual Proceedings	AIChE Curran Associates, Inc. New York	Use of Anhydride Based Polymers as Scale Control Agents in Production of Heavy Oils	2010	ISBN: 978-1-61782-142-4

JOURNALS

JOURNAL NAME	TITLE OF PAPER	PUBLISHER	VOLUME / PAGE NO.	YEAR	ISSN / ISBN NO.
Journal of King Saud University-Engineering Sciences	Novel One-Pot Microwave Synthesis of Maleic anhydride Based Mineral Scale Inhibitors and Their Application	ELSEVIER	volume 35, Issue 7, 442 - 449	2023	Print ISSN: 1018-3639
Environmental Technology	Assessment of Novel Maleic anhydride Copolymers prepared via Nitroxide Mediated Radical Polymerization as CaSO ₄ Crystal Growth Inhibitor	TAYLOR AND FRANCIS	volume 38, No 8, 985-995,	2017	Print ISSN: 09593330
Desalination	Potential Kinetic Model for Scaling and Scale Inhibition Mechanism	ELSEVIER	393, 186-195,	2016	Print ISSN: 00119164
Desalination	Performance of Inhibitors on CaCO ₃ Scale Deposition in Stainless Steel & Copper Pipe Surface	ELSEVIER	375, 138-148,	2015	Print ISSN: 00119164
Desalination	Application and Evaluation of Novel Acrylic Based CaSO ₄ Inhibitors for Pipes	ELSEVIER	355, 33-44	2015	Print ISSN: 00119164
Journal of Applied Polymer Science	Antiscaling Properties of Novel Maleic anhydride Copolymers prepared via Iron (II) Chloride Mediated ATRP	WILEY INC.	Vol 131, Issue 4, 1-10	2014	Print ISSN: 00218995
Journal of Petroleum Science & Technology	Inhibition Efficiencies of Synthesized Anhydride Based Polymers as Scale Control Additives in Petroleum Production	ELSEVIER	Vol 81, 151-160	2012	Print ISSN: 09204105

Journal of Applied Polymer Science	Synthesis of Liquid Crystalline Polymers from Polyethylene Terephthalate and 4-Acetoxybenzoic Acid: A Kinetic Study	WILEY INC.	Vol 123, 1359-1369	2012	Print ISSN: 00218995
International Journal of Toxicology	A Model to Predict Rate of Dissolution of Toxic Compounds into Seawater from an Oil Spill	SAGE PUBLICATIONS	Vol 27, Issue 5, 379 – 386	2008	Print ISSN: 1091-5818
Journal of Petroleum Science & Technology	Potential Approaches towards Characterization and Property Estimation of Heavy Petroleum Fluids and Natural Gas Systems	ELSEVIER	Vol 26, Issue 18, 2159 – 2169	2008	Print ISSN: 09204105
Chemical Engineering Science Journal	A Method to Predict Solubility of Hydrogen in Hydrocarbons and Their Mixtures	ELSEVIER	Vol 62, Issue 23, 6649 – 6658	2008	Print ISSN: 0009-2509
Journal of Applied Polymer Science	Homo-oligomerization of Maleic-anhydride in Nonpolar solvents – A Kinetic Study of Deviations from Non-linear Behaviour	WILEY INC.	Vol 102, Issue 4, 3404-3412	2006	Print ISSN: 00218995
Polymer Bulletin	Free Radical Solution Copolymerization of n-Octyl acrylamide and Maleic Anhydride in a Non-Polar Solvent; Synthesis and Characterization of a Difunctional Copolymer	SPRINGER	Vol. 55, 81-93	2005	Print ISSN: 01700839
Journal of Applied Polymer Science	Application of Different Kinetic Models to Analyse the Reaction Rates of Liquid Crystalline Homopolyesters	WILEY INC.	Vol 93, 1118 -1128	2004	Print ISSN: 00218995

Journal of Petroleum Science & Engineering	Use of Novel Surfactant for Improving the Transportability / Transportation of heavy / viscous Crude Oil	ELSEVIER	Vol 42, 235 – 243	2004	Print ISSN: 0920-4105
European Polymer Journal	Modelling the Kinetics of Step Homopolymerization reactions – An Assessment of Different Approaches	ELSEVIER	Vol 39, 1177 – 1186	2003	Print ISSN: 0014-3057
Journal of Applied Polymer Science	Kinetic Evaluation of an Oligomeric Amidation Reaction	WILEY INC.	Vol 82, 2534 - 2543	2001	Print ISSN: 00218995
Industrial & Engineering Chemistry Research,	Use of the Refractive Index in the Estimation of Thermophysical Properties of Hydrocarbon Mixture	AMERICAN CHEMICAL SOCIETY (ACS)	Vol 40, Issue - 8 1975 - 1984	2001	Print ISSN: 0888-5885
Drying Technology	Optimal Design of Well-Mixed Fluidized Bed Dryers	TAYLOR AND FRANCIS	volume 18, No 7, 1509 - 1535	2000	Print ISSN: 0737-3937
Separation and Purification Technology	A Thermodynamic Model for Liquid Adsorption Isotherms	ELSEVIER	Vol 18, 237 – 250	2000	Print ISSN: 1383-5866
Journal of Chemical Engineering	Multi-stage Flash Desalination: Present and Future Outlook	ELSEVIER	Vol 73, 173 – 190	1999	Print ISSN: 1385-8947
Journal of Industrial & Engineering Chemistry Research	Estimating Sulfur Content of Petroleum Products and Crude Oils	AMERICAN CHEMICAL SOCIETY	Vol 38, 4507 – 4512		Print ISSN: 0888-5885

CONFERENCES, WORKSHOPS AND SEMINARS

TITLE	TYPE	PLACE	YEAR
Kinetics and Degradation mechanism of $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ crystals isolated after the Inhibition effect of Maleic anhydride polymer	2 nd Journal of Thermal Analysis and Calorimetry Conference	Budapest, HUNGARY	June 18 - 21, 2019
Novel microwave assisted synthesis and evaluation of maleic anhydride copolymers as $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ scale inhibitors	2 nd Journal of Thermal Analysis and Calorimetry Conference	Budapest, HUNGARY	June 18 - 21, 2019
Prediction of products properties in separation processes for heavy residues and crude oils	242nd ACS Annual Meeting, Division of Fuel Chemistry	Denver, Colorado, U.S.A.	Aug 28 – Sept 1, 2011
Efficiencies of Some Anhydride Based Polymers as Antiscalants in Water Desalination Plants	AIChE Annual Meeting Fleming Gulf Conference	Minneapolis, Minnesota, U.S.A.	October 16-21, 2011
Use of Anhydride Based Polymers as Scale Control Agents in Production of Heavy Oils	<u>AIChE Annual Meeting</u>	Salt Lake City, Utah, U.S.A.	November 7-12, 2010
Solubility of Toxic Compounds from Petroleum Spills into Seawater	The 20th annual European Simulation and Modelling Conference	Toulouse, France.	October 23-25, 2006
Rate of Dissolution of Toxic Compounds from Oil Spills into Seawater	Kuwait Second International Oil and Gas Conference and Exhibition, Kuwait Ministry of Energy	Radisson SAS Hotel, Kuwait	November 20-22, 2006
Modelling of Solubility of Light Gases in Hydrocarbons and their Mixtures	Session Phase Equilibrium, Supercritical Fluids and Separation Technologies 5, 19 th International Conference on Chemical Thermodynamics, THERMO International 2006	Boulder, Colorado, U.S.A.	July 30 – August 4, 2006
Potential Approaches Towards Characterization and Property Estimation of Heavy Petroleum Fluids and Natural Gas Systems	Session Properties of Fuels, Including Natural Gas Systems, at the 16 th Symposium on Thermophysical Properties, THERMO International 2006	Boulder, Colorado, U.S.A.	July 30 – August 4, 2006

Simulation of rate of toxic compounds from an oil spill into seawater	2nd International Conference on Safety and Environment in Process Industry, <u>CISAP-2</u>	Naples, Italy	May 21-24, 2006
Solubility of Toxic Compounds from Petroleum Spills into Seawater	European Modeling and Simulation 2006, ESM'2006, EURSIS	Vol 20, pp. 169-173	2006
Predicting Solubility of Hydrogen in Petroleum Fuels	ACS Priprint, Division of Petroleum Chemistry: "Hydrotreating / Hydrocracking Technologies: Status & Future Challenges"	Vol. 50, No. 4, pp. 389-390	2006
Calculation of Solubility of Hydrogen in Hydrocarbons at High Pressures	American Institute of Chemical Engineers (AIChE) Annual Fall Meeting, Session on "Thermodynamics at High Pressure	Cincinnati, Ohio, U.S.A.	October 30-November 3, 2005
Minimum Laboratory Data for Reservoir Fluids	50 th Canadian Chemical Engineering	Montreal, Canada	October 15-18, 2000
Use of Velocity of Sound in Estimating PVT Properties of Petroleum Mixtures	50 th Canadian Chemical Engineering	Montreal, Canada	October 15-18, 2000
Use of Velocity of Sound in Estimating Thermodynamic Properties of Petroleum Fractions	220 th American Chemical Society (ACS) Annual Meeting, Division of Petroleum Chemistry	Washington D.C., U.S.A.	August 20-25, 2000
Use of Refractive Index in Estimation of Properties of Non-Polar Fluids	Paper presented at the AIChE Spring Meeting	Houston, U.S.A.	March 14-18, 1999
Polymeric Starlets – Polymer Designer Molecules and Their Applications	International Conference on RESEARCH TRENDS IN SCIENCE AND TECHNOLOGY	Beirut & Byblos, Lebanon	March 6-8, 2000
Polymer Starlets in the Cutting Edge of Molecular Design	International Workshop conducted by UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION on Polymeric Materials and the Environment	University of Qatar, QATAR	1999

CONSULTATION- PROJECTS

S. NO.	COSULTATION FIRM	YEAR	DETAILS
1.	Ministry of Public Works (MPW), Kuwait	2007 – 2008	Investigation of Cause of Failure for u-PVC Pipes
2.	Kuwait Oil Company (KOC) & Kuwait Pipe Industry & Oil Service (KPIOS)	2006 – 2007	Investigation of Coating Failure of 48” Pipes
3.	Kuwait Metal Pipes	2005 – 2005	Use of Carbon Steel Welded Pipes for Utilization in Water Projects
4.	The Kharafi National Company for Mech. & Elec. Works Ltd., Kuwait (A.G.)	2005 – 2005	Effects of Corrosion on Tank Plates
5.	Al-Sharhan Industries, Kuwait (A.G.)	2004 – 2004	Environmental Impact Study
6.	Kuwait Pipe Industries & Oil Services (KPIOS)	2002 – 2006	Comparative Study on Use of Spirally Welded Carbon Steel vs Ductile Pipes for Utilization in Water Projects
7.	Office of Consultation and Career Development (OCCD) Kuwait University	2004 - 2004	Use of High-Density Polyethylene Pipes for Utilization in Wastewater for Kuwait Government
8.	Office of Consultation and Career Development (OCCD) Kuwait University	2003 - 2003	Determination of Asphaltenes in crude oil sample
9.	Office of Consultation and Career Development (OCCD) Kuwait University	2002 - 2002	Use of novel surfactants for improving the transportability of Heavy/viscous crude oil
10.	Office of Consultation and Career Development (OCCD) Kuwait University	2001 - 2001	Determination of HOC (hazardous organic compounds) from Oil-contaminated Soil sample

RESEARCH - PROJECTS

Code NO.	TITLE	DESIGNATION	INSTITUTION / YEAR
RE05 -19	Corrosion Assessment and Mitigation on Mild Steel in Oil Field Brackish Water by Amide – Based Polymers	PRINCIPLE INVESTIGATOR	Kuwait University 2022 – To Present
RE03 -14	Performance Evaluation of Maleic Anhydride Polymers in Scale Prevention in Thermal Processes	PRINCIPLE INVESTIGATOR	Kuwait University 2015-2020
RE05 -06	Synthesis & Application of Maleic anhydride-based Polymers as Scale Control Agents in Potable Water Treatment System	PRINCIPLE INVESTIGATOR	Kuwait University 2008 – 2010
EC03 -00	Synthesis and Characterization of Novel Water-Soluble Polymers and their Application	PRINCIPLE INVESTIGATOR	Kuwait University 2000 – 2004
EC-092	Use of Refractive Index in Estimating Thermodynamic Properties	CO- INVESTIGATOR	Kuwait University
EC 05 - 05	A Model to predict Rate of Dissolution of Toxic Compounds in Seawater from an Oil Spill	CO- INVESTIGATOR	Kuwait University

HONORS AND AWARDS

NAME	DETAILS	PLACE	YEAR
Research Award	From Research Administration, Kuwait University for publishing a Scientific Paper in the top 25% in its field. Paper entitled “Performance of Inhibitors on CaCO ₃ Scale Deposition in Stainless Steel & Copper Pipe Surface”	Kuwait University	2017
Research Award	From Research Administration, Kuwait University for publishing a Scientific Paper in the top 25% in its field. Paper entitled “Potential Kinetic Model for Scaling and Scale Inhibition Mechanism”	Kuwait University	2019

ANALYTICAL INSTRUMENTS

S. NO.	INSTRUMENTS	DETAILS
1.	Atomic Force Microscopy	Working in Magnetic AC mode, Acoustic mode & Contact mode
2.	INSTRON 8800 Servo hydraulic Testing System	Working in both Static and Dynamic mode
3.	Gel Permeation Chromatography (GPC)	Molecular Weight determination for polymers, asphaltenes and complex compounds.
4.	HPLC	Qualitative analysis of polymers and compounds
5.	Gas Chromatography (GC)	Detailed hydrocarbon analysis and Alcohol analysis
6.	Rheologica Rheometer	Calculation of Shear rates and shear stress
7.	Brookefield Viscometer	Viscosity of various samples Ex. Oil, Polymers etc.
8.	FT-IR Spectroscopy	For structural analysis of polymer samples
9.	Ultraviolet Spectroscopy	For structural analysis of polymer and various soil samples
10.	Mastersizer Particle Analyzer	Particle size of polymers, asphaltenes, soil sample etc.

SOFTWARE SKILLS

S. NO.	TYPE	DESCRIPTION
1.	Mathematical Programming	MATLAB, Mathcad, Polymath, Mathematica
2.	Optimization	Excel, MATLAB, Polymath
3.	Programming Language	Basic C++, FoxPro
4.	Presentation	MS Word, MS PowerPoint, Adobe Photoshop, Adobe Acrobat, Adobe Premiere, HTML,
5.	Designing	Adobe Photoshop, Corel Draw
6.	Molecular Editor	Chem-Office, Chem-Draw, Hyper-Chem, G-NMR,
7.	Chemical Process Simulator	ASPEN, HYSYS
8.	Modelling and Data Analysis	Modelling and Data Analysis using Excel, MATLAB MAPLE Software and R Language

PROFESSIONAL MEMBERSHIP

1. American Institute for Chemical Engineers.
2. American Chemical Society.
3. AIChE Society.
4. American Rheological Society.
5. American Society of Molecular Simulation.
6. Kuwait Engineering Society.
7. Academic Engineering Council.