

CURRICULUM VITAE

For

Mohamed M. Amer

A. PERSONAL DATA

Full Name: Mohamed M. Amer
Date of Birth: 11-10-1952, Janzur, Libya
Material Status: Married and have 3 boys
Present Occupation: Professor
Chemical Engineering Department
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OBJECTIVES

1. Interact with students at both graduate and undergraduate levels and enrich their learning, research creativity, and career development.
2. Direct and conduct research in the areas of Fluid phase Equilibrium, Phase Behavior of Petroleum Reservoir fluids, PVT Simulation, Wax and Asphaltene modeling, compositional reservoir simulation.
3. Natural gas and Refining processes modeling and simulation, groundwater and air pollution modeling.
4. Sustainable education development and strategy planning toward society.

B. QUALIFICATIONS AND EXPERIENCE RECORD

I. Education:

Ph.D. (1986) Chemical Engineering, University of Missouri, Columbia, Missouri, USA.

M.Sc. (1981) Chemical Engineering, Colorado School of Mines, Golden, Colorado, USA.

B.Sc. (1977) Chemical Engineering, Al-Fatah University Tripoli - Libya

II. Experience:

1. Employment History:

1.1 Academic

- 2009-2011 Visitor Professors at United Emirates University, Alan, Emirate.
- 2000-Present Chairman of chemical engineering at university of Tripoli, Tripoli- Libya
- 1996-Present Professor of chemical Engineering at University of Tripoli , Tripoli- Libya
- 1991-1996 Associate Professor of chemical Engineering at university of Tripoli, Tripoli- Libya
- 1987-1991 Assistant Professor of chemical Engineering at university of Tripoli, Tripoli-Libya
- 1986-1987 Lecture of chemical Engineering at university of Tripoli ,Tripoli – Libya

1.2 Industry

- 2007-2009 Head of Climate change Committee for Libya.
- 2000-2009 Environment General Authority (EGA) as Management committee member, and responsible for oil sector related to Environment such as EIA, Environment Managements related to drilling waste etc.
- 2000-2008 Coordinator Libyan Focal points at Regional marine pollution Emergency Response central for the Mediterranean (REMPEC).
- 2001- 2005 Member of Sustainable Development Committee for Libya, Environmental General Authority.

- 2001-2003 Member of site cleanup contamination with hydrocarbon. Joint Committee between National oil cooperation and Environmental General Authority.
- 1997-2000 Part time with VEBA Oil Operations company , Engineering & Planning Department, Tripoli, Libya
- 1993-2005 Part- time with AGIP oil company, Libyan Branch, Tripoli- Libya.
- 1992-1993 Part-time Consultant with national oil cooperation, Tripoli- Libya
- 1988-2001 Part-time consultants with Petroleum research center, petroleum section, PVT Libratory.

2. Teaching (1986- Present):

Since 1986 up to date I have been engaged in teaching various courses in chemical Engineering Department as below:

2.1 Courses taught at United Arab Emirates University, Alan, Emirate.

Undergraduate Level:

- Special topic in petroleum Eng."Natural Gas process" PETE 570
- Thermodynamics GENG 220
- Petroleum Refining Eng. CHME 462
- Chemical Eng. Laboratory I. CHME 418
- Chemical Eng. Laboratory II. CHME 419
- Mass Transfer CHME 421

Graduate Level:

- Fluid Phase Equilibrium PTSE 710
- Transport Phenomena CHME 711
- EIA in pet. & Petrochem.ind. PTSE 702

2.2 Courses taught at University of Tripoli, Tripoli, Libya.

Undergraduate Level:

- Thermodynamics for chemical Engineering CHE 301 and CHE 302.
- Applied mathematics For chemical Engineering CHE 531.
- Numerical analysis for Graduate student.
- Natural Gas processing CHE532.
- Groundwater contamination for chemical Engineering CHE 540.
- Processes control for chemical Engineering.
- Enhanced oil recovery.
- Mass Transfer CHE 421.
- Separation processes CHE 422.
- Refinery CHE 501
- Fluid flow for petroleum engineering CHE 320.
- Heat transfer CHE 321.

Graduate Level

- Applied mathematics For Engineering GE 604
- Advanced Numerical analysis GE609
- Advanced Thermodynamics CHE 610
- Advanced Mass Transfer CHE 630

2.1 Short Courses:

Participated in teaching the following courses within continuous Education program for National Oil Cooperation.

- Natural Gas.
- PVT. & FLUID characterization.
- Multiphase flow & its Application.
- Enhanced Oil Recovery.
- Groundwater contamination and Remediation technologies.
- Applied Thermodynamic for Petroleum engineering.
- Energy & Environmental Protection Continuous Education Program.
- Effective Management of Energy Industry.

2.2 Supervision of undergraduate project for Bsc.

Since 1986 I supervised a large number of undergraduate project at least more than 35 projects.

2.3 Supervision of Master degree:

Since 1990 I supervised at least 15 Master degree related to oil industries and Environmental issues, some of the thesis are listed below.

- a) Reducing sulfur content in refinery product by adsorption using data stone, Master degree in progress (Sept.2018)
- b) Desulphurization study of petroleum products using reactive distillation (in progress May.2018)
- c) Modeling and Simulation for FCC unit using simulation package such as Hysys, Pro II , CHEMCAD (work in progress)
- d) Modeling and Simulation for carputer of CO₂ from Natural gas and injected in to oil reservoir.
- e) Measurement and predictions of excess properties and viscosities of n-alkane liquid system for a temperature range of 293.15 K to 333.15 K (2008).
- f) Modeling and simulation of reactive distillation column under dynamic state (2008).
- g) Modeling and applications of reactive distillation for static state (2004).
- h) Measurement and prediction of excess properties and viscosities of toluene and n-alkane liquid mixture (2004).
- i) Prediction of Thermodynamics property of hydrocarbon with corresponding state using New Parameter (2003).
- j) Mathematic Modeling and numerical solutions of contamination in groundwater with product oil (2002).
- k) The techno-economic evaluations of Libyan oil refining industry (2000).
- l) Modeling and prediction of Wax in Libyan oil field (1999).
- m) Global Optimization of EOS Parameter (1991).
- n) Measurements and Modeling of asphaltene precipitation under CO₂ injection (1990).

3 Research:

- Supervised research projects and theses of senior and graduate degree students. Conducted and supervised several study for oil sector in the areas of PVT data analyses, prediction of C_{n+} properties and its effect on phase behavior, convention reservoir simulation, processes modeling and simulation, groundwater and air pollution modeling.

3.1 Summary of Research Contribution:

1. Thermal recovery by steam injection, study and application for Libyan Reservoir.
2. Natural gas transportation "pipeline design".
3. Effect of C_7 PLUS properties on phase behaviors calculation using an equation of state.
4. Asphaltene precipitation experimental and modeling "M.Sc thesis 1990".
5. Optimization of equation of state ' M.Sc, thesis 1991".
6. Volume of Mixing and Viscosity of Binary Mixtures of Toluene and n-Alkanes.
7. Simulation of ground - water contamination on Azzawiya area.
8. Prediction of Wax precipitation and rate of Deposition in well (M.Sc Thesis Dec. 1999).
9. Prediction of Second Virial coefficients using new parameter (will be published in near time).
10. Reservoir Management using linear Programming (M.Sc thesis in Progress).
11. Asphaltene and Salt Build-up Investigation study for Libyan Reservoir, (Project under investigation at VEBA &AGJIP (N.A.M.E.) Oil operations, Libyan Branch).
12. Conventional Reservoir Engineering Study for Waha Oil operation Company finished by Dec.2000.
13. Groundwater contamination with Chemical and Hazard material, Modeling and case study (thesis 2002 M.Sc).
14. Soil Contamination with chemical and Treatment method (ongoing Project).
15. Simulation of reactive distillation (MSC. Thesis 2004).
16. Prediction and Calculation of Thermodynamics property based on corresponding state using new parameters (M.Sc Thesis Dec.2003).
17. Mixing properties for the ternary mixtures of Toluene and n-alkanes (will be published).

18. Viscosity and liquid density of Toluene-Alkanes mixtures: measurement and modeling (will be published).
19. Effect of thermodynamic properties on the simulation of reactive distillation (will be published).
20. Reactive distillation simulation under static and dynamic processes (will be published).
21. New correlation for vapor pressure(will be published in near time)
22. Reviews and approval more than 20 EIA studies for new Libyan concession for international oil company working in Libya.
23. Capacity Building for Professional Development through UNDP sponsored National Capacity Assessment Programs (NCSA)

PUBLICATIONS:

1. Gas Hydrate, Libyan – Italian Joint Technical, Symposium, Tripoli, Libya, Feb 1987.
2. EOR R&D activities at the Petroleum Research Center, current Activities and future plans. Its Technical Symposium on EOR, Tripoli, Libya, 1990.
3. Estimation of equilibrium flash vaporization of Petroleum Products using equation of state. Chemical Engineering Seminar, Gabes-Tunisia .28-30 May 1991.
4. Simulation of phase behavior of reservoir-oil- CO₂ mixtures using Peng-Rabinson equation of state. Chemical Engineering Seminar, Gabes-Tunisia, 28-30 May 1991.
5. Energy analysis within a chemical process using any equation of State. Jordan Chemical Engineering Conference II, Jordan, June (1996).
6. Characterizing undefined petroleum fraction, Mediterranean Petroleum Conference and Exhibition, 26-29 November, 1995, Tripoli- Libya.
7. Predictions OF CO₂ MMP, African Petroleum Producers Association, Enhanced Oil Recovery Seminar, 28-30 April, 1997, Tripoli- Libya.
8. Organic Depositions Problems and Solution, African Petroleum Producers Association, Enhanced oil Recovery Seminar, 28-30 April 1997, Tripoli-Libya.
9. Application of Linear Programming Approach (LP) in the Refinery Process, Mediterranean Petroleum Conference and Exhibition, 25-27 November. 1997. Tripoli, Libya.
10. Marine Pollution & the Impact Of Sea Water Desalination On Coastal Environment In Libya, Dubai International Seminar, Dec 2003
11. United Nations programs on energy and environment towards sustainable development will be presented during Jan. 15-17, 2004 MPC –8 conferences on Petroleum Industry.
12. Deliverered 2 lectures on Energy Management in Petroleum Industry at International Energy Foundation Workshop, 14-25 April 2002.
13. Delivered 2 lectures as a principal resource person during Workshop on Effective Environmental Management in Industry at International Energy Foundation, 19-29 Jan 2003.

14. Towards Sustainable Consumption and Production Patterns in Libya: A Case Study ISEIS'2003 Canada, July 2003.
15. Options & Opportunities for Greenhouse Gas Abatement in the Transport Sector of Africa: Some Case Studies, International Environment & Energy Workshop, 29-30, April 2003, Tripoli, Libya
16. Energy Efficiency & Sustainable Clean Construction Industry, International Environment & Energy Workshop, April 29-30, 2003, Tripoli, Libya
17. Clean Tech Initiatives In Libya: A Case Study, International Environment & Energy Workshop, 29-30, April 2003, Tripoli, Libya.
18. Sustainable Energy Technology and Clean Development Solutions, International Environmental Progress Conference, Feb. 5-7, 200, Manama, Bahrain
19. Environmental General Authority Initiatives For Sustainable Energy Supplies To Europe, Oil & Gas North Africa 2002, Conference.
20. Sustainable Development of Oil and natural gas, 3rd International Forum and exhibition, 12-14 September, 2006, Tripoli – Libya.
21. Re-Injection / Sequestration of Raw or Acid Gas in Offshore Oil Field: History and Case Study. 20th Symposium of Malaysian chemical Engineers, 19-21 December 2006.

COMPUTER APPLICATION PACKAGES DEVELOPMENT:

The following computer packages have been developed:

- A thermodynamic Model for Asphaltene flocculation during oil Production and processing.
- A thermodynamic model for wax deposition during oil production and processing.
- Phase behavior and physical properties, (for defined & undefined Mixture compound).
- Hydrate prediction at varied conditions.
- Retrograde condensation in Natural gas pipelines.
- A two - phase Finite - element program For miscible recovery Processes in porous media (under development).
- One, Two finite difference program for ground water contamination with hydrocarbon with and without chemical reaction.