

Dr. Khaled A. Mahdi

Name and contact information

Name: Khaled A. Mahdi
Rank: Associate Professor
Address: Office Room Number: S03D1140., Chemical Engineering Department, College of Engineering and Petroleum, Kuwait University (Al-Shadadiya)
E mail: khaled.mahdi@ku.edu.kw

Education

Degree	Field	Institution	Country	Year
PhD.	Chemical Engineering	Northwestern University	USA	2000
M.S.	Chemical Engineering	Illinois Institute of Technology	USA	1995
B.S.	Chemical Engineering	University of Toronto	Canada	1993

Academic Experience

Institution	Designation	Country	Year/period
Kuwait University	Associate Professor	Kuwait	2013 - Now
Kuwait University	Assistant Professor	Kuwait	2000-2013
Kuwait University	Scholarship Teaching Assistant	Kuwait	1995 – 2000
KISR	Research Engineer	Kuwait	1993 - 1995

Non-academic experience

Office/Organization	Designation	Year
The Conference Board (MENA)	Chairman	2024 – present
The Conference Board (MENA)	Board Member	2018 – 2024
IDC Kuwait Advisory Council	Board Member	2023- present
College of Business and Economics (AUK)	Advisory board member	2016- present
Center of Excellence in Management (KU)	Board Member	2021-2022
Supreme Council for Planning and Development	Secretary-General	2016-2024
Supreme Council for Planning and Development	Assistant Secretary-General	2015-2016
The State Minister of Planning and Development	Advisor	2014-2015
Environment Preservation Industrial Company	Chairman	2010-2013
Arab International Company for Industrial Projects, Kuwait	Vice Chairman	2009-2013
Al-Dhow for Environmental Projects	Board member	2008-2011
Office of Vice President for Academic Affairs	Advisor	2003-2005

Membership in professional organization

Society Name	Type of Membership	Year
Kuwait Engineering Society	Lifetime Member	1993 – Present
Kuwait Project Management Society	Founding Member	2017-present
Kuwait Science, Technology, and Innovation Society	Founding Member	2019-present
AIChE	Senior Member	1989 – present
Kuwait Economic Society	Member	2019-present
Project Management Institute	Founding Member	2005 – present
Institute of Chemical Engineers,	Associate Member	2005- present

Honors and awards (Most Recent/Distinguished)

Honor/Award	Date
“People First” Leader Award, HR GCC, Abu Dhabi, UAE	2018
Project Management Professional (PMP), 451958, Project Management Institute	2007
Consulting Engineer (CEng), 818, Kuwait Society of Engineers, (2007)	2007
Certified Arbitrator and Expert (GCCarb), GCC Commercial Arbitration Centre, (2009)	2009
Best Teaching Award, College of Engineering and Petroleum, Kuwait University, Kuwait	2009

Scientific Contributions (2000 – Present)

1. Eric Andrew Finkelstein, Jesse D. Malkin, Drishti Baid, Ada Alqunaibet, **Khaled Mahdi**, Mohammed Bin Hamad Al-Thani, Buthaina Abdulla Bin Belaila, Ebrahim Al Nawakhtha, Saleh Alqahtani, Sameh El-Saharty & Christopher H. Herbst *The impact of seven major noncommunicable diseases on direct medical costs, absenteeism, and presenteeism in Gulf Cooperation Council countries*, Journal of Medical Economics, DOI: 10.1080/13696998.2021.1945242 Taylor & Francis (2021)

a) 2013

2. AlShiridah, Ghufra; **Mahdi, Khaled**; Safar, Maytham; *Facebook feedback capacity modeling*. Social Network Analysis and Mining (SNAM) 3:4, Springer Vienna (2013)
3. Safar, Maytham; **Mahdi, Khaled**; Farahat, Hisham; Albehairy, Saud; Kassem, Ali; Alenzi, Khalid; *Approximate cycles count in undirected graphs*. International Journal of Computational Intelligence Systems, Taylor & Francis (2013)
4. Almohri, Sayed Mohammad; AlShiridah, Ghufra A; Safar, Maytham; **Mahdi, Khaled**; *Correlating feedback capacity with degree of diffusion in heterogeneous complex networks*. International Journal of Space-Based and Situated Computing 3:4, Inderscience Publishers (2013)
5. Ibrahim Sarkhoh, **Khaled Mahdi**, and Maytham Safar, *Estimation Algorithm for Counting Periodic Orbits in Complex Social Networks*. Information System Frontiers, Special issue on Semantic Information Management .15 (2), 193-202 (2013)

b) 2012

6. Maytham Safar, Fahad **Mahdi**, and **Khaled Mahdi**, *An Algorithm for Detecting Cycles in Undirected Graphs using CUDA Technology*. International Journal of Digital Information and Wireless Communications (IJDWC), Vol. 2, No. 1, pp. 194-213, published by The Society of Digital Information and Wireless Communications, (2012)
7. **K. Mahdi**, L. Jamal and M. Safar *Cyclic Entropy of Collaborative Social Network*, IET Communications, 6 (12), 166-1617 (2012)

c) 2011

8. Maytham Safar, **Khaled Mahdi**, Hisham Farahat, Saud Albehairy, Ali Kassem, Khalid Alenzi, *Approximate Cycles Count in Undirected Graph*. International Journal of Computational Intelligence Systems (IJCIS) (2011)
9. Maytham Safar, **Khaled Mahdi** and Sadeq Torabi. *Network Robustness and Irreversibility of Information Diffusion of Complex Networks*. Journal of Computational Science, Special issue on social computational systems, 2 (3), 189-314 (2011)
10. Muhammad Mujiburahman, **Khaled A. Mahdi** and Ali Elkamel, Predictive model of per-vaporation performance based on physicochemical properties of permeant-membrane material and process conditions. Journal of Membrane Science 381, 1-9 (2011)
11. G. Zahedi, A. Lohi and **K. Mahdi**, Hybrid modeling of ethylene-to-ethylene oxide heterogeneous reactor. Fuel Processing Technology 92, 1725-1732 (2011)

d) 2010

12. **K. Mahdi**, M. Al-Rashed, A. Alsairafi and J. Wójcik, *CFD Simulation of A Conical-Cylindrical Crystallization Unit Multi-Phase Eulerian Model*. Kuwait J. Sci. Eng., 37 (2B): 145-160 (2010)
13. M. Safar, N. El-Sayed, **K. Mahdi** and D. Taniar, *Entropy Optimization of Social Networks using an Evolutionary Algorithm*. Journal of Universal Computer Science 16 (6), 983-1003 (2010)
14. M. Safar, H. Farahat and **K. Mahdi**, *Robustness of Dynamic Social Network*, Journal of Mobile Multimedia, 6 (3), 243-262 (2010)

e) 2009

15. **K. Mahdi**, M. Safar, and S. Torabi, *A Model of Diffusion Parameter characterizing Social Network* IADIS International Journal on WWW/Internet, 7 (1), 136-151 (2009)
16. **Khaled Mahdi**, Maytham Safar, Ibrahim Sorkhoh, and Ali Kassem, *Cycle-Based versus Degree-based Classification of Social Networks*, Journal of Digital Information Management, special issue, 7 (6), 383-389 (2009)
17. **K. Mahdi**, Maytham Safar and Hisham Farahat, *Analysis of Temporal Evolution of Social Networks*. Journal of Mobile Multimedia, 5 (4), 333-350 (2009)

f) 2008

18. **K. Mahdi**, G. Zahedi, R. Gheshlaghic, and A. Lohi d, *Characterization and modeling of a crude oil desalting plant by a statistically designed approach*. Journal of Petroleum Science and Engineering 61:116–123 (2008)
19. S. F. Peng, M. Farid, I. Ho, and **K. Mahdi**, *Water and Wastewater Minimization in Dairy Plants using Water Pinch Technology*. J. Int. Environmental Application & Science, Vol. 3 (1): 43-50 (2008)
20. **Khaled A. Mahdi**, *Generating Thermodynamics Phase Diagrams Using Symbolic Calculator*, World Review of Science, Technology and Sustainable Development, Vol. 5, No 3/4, (2008)

g) 2006 - 2000

21. **Khaled A. Mahdi** and Zuzana Drobova, *Phase Behavior of DNA Solutions in the presence of Salts*, Fluid Phase Equilibria, **242**, 103-109, (2006)
22. M. Riazi, **K. Mahdi** and M. Al-Qallaf, *Generalized Correlation for the Viscosity of Hydrocarbons Based on Corresponding States Principles and Molar Refraction*. Journal of Chemical & Engineering Data, 50, 1-5, (2005)
23. **Khaled A. Mahdi** and Monica Olvera de la Cruz, *Phase Diagrams of Salt-Free Polyelectrolyte Solutions*. Macromolecules, **33**, 7649-7654, (2000)

2. BOOKS AND BOOK CHAPTERS

1. Ghufra Al-Shiridah, Maytham Safar, and **Khaled Mahdi**, *Mobile Communication Networks*. Accepted for publication in the section "History of Social Networks: Past, Present and Future", Encyclopedia of Social Networks and Mining (ESNAM). Co-edited by Reda Alhajj and Jon Rokne, Springer Verlag, (2014)
2. Maytham Safar and **Khaled Mahdi** *Social Networking and Community Behavior Modeling: Qualitative and Quantitative Measures*, pp. 214, IGI (2011)
3. A. Eltoukhy, M. Safar and **K. Mahdi**, *Modeling, Analysis and Characterization of Dubai Financial Market as a Social Network* chapter in: Software Engineering and Computer Systems: Communications in Computer and Information Science, 181, Part 4, 443-454, Springer (2011)

3. TECHNICAL REPORTS

1. **Khaled A. Mahdi**, *MENA Petrochemical Industries Report 2014*. FOCUS Technical Report Series, No 1. FOCUS Consultancy Services, Kuwait (2014)
2. **Khaled Mahdi**, Ali Elkamel and Hariharan Krithivasan, *Survival of the Fittest in the Oil and Gas Industry - Integration of Refinery and Petrochemical Industries, Refinery and Petrochemical Integration*. Organization of Arab Petroleum Exports Countries (OAPEC) (2014)

4. CONFERENCES / PROCEEDINGS

a) 2016

1. M. Hrishiah, M. Safar; **K. Mahdi**., " *Modeling Twitter as weighted complex networks using retweets*," Advances in Social Networks Analysis and Mining (ASONAM), 2016 IEEE/ACM International Conference on, (2016).

b) 2015

2. A. Elkamel, L. Simon ; E. Tsai ; V. Vinayagamoorthy ; I. Bagshaw ; S. Al-Adwani ; **K. Mahdi**., " *Modeling the mechanical properties of biopolymers for automotive applications*," Industrial Engineering and Operations Management (IEOM), 2015 International Conference on, Dubai, (2015).

c) 2014

3. M. Bin Shams, **K. Mahdi**, A. Elkamel, K. Moorthy, J. Refinejad and A. Saxena; *Design of T² Statistical Control Chart Based on Economic Criterion*. AIChE 2014 Annual Meeting, Atlanta, USA (2014)
4. **K. Mahdi**, A. Elkamel, L. Simp, E. Tsai, V. Vinnayagamoorthy and I. Bagshaw; *Modeling the Mechanical Properties of Biopolymers for Automotive Application*. AIChE 2014 Annual Meeting, Atlanta, USA (2014)
5. Maytham Safar; **Khaled Mahdi**; *Degree of Diffusion in Real Complex Networks*. The Fourth International Conference on Digital Information Processing and Communications (ICDIPC2014), The Society of Digital Information and Wireless Communication (2014)

d) 2013

6. Saeed B. Bukallah, Sara Al-Omani, Ali Bumajdad, Fakhria A. Al-Sagheer, **Khaled Mahdi**, and Tasneem Saleh; *Highly efficient photocatalysts of TiO₂ nanoparticles prepared via microwave and microemulsion techniques*; The 11th European Congress on Catalysis - EuropaCat (XI), " 20 years of European Catalysis and beyond", Lyon Convention Center, la Cité Internationale, Centre de congrès, Lyon, France; 1st – 6th September (2013)
7. Al-Shiridah, Ghufra; **Mahdi, Khaled**; Safar, Maytham; *Feedback Capacity of Different Complex Network Models*. Advanced Information Networking and Applications Workshops (WAINA), 2013 27th International Conference, IEEE (2013)
8. Aldwaisan, Eman; Safar, Maytham; **Mahdi, Khaled**; *Analysis of Heterogeneous Complex Networks Using the Degree of Diffusion*. Network-Based Information Systems (NBIS), 16th International Conference, IEEE (2013)

9. Maytham Safar, **Khaled Mahdi**, and Ghufra Alshareda, *Feedback Capacity of Different Complex Networks Model* 9th International Symposium on Frontiers of Information Systems and Network Applications. FINA, Barcelona (2013).

e) 2012

10. Ibrahim Sarkhoh, **Khaled Mahdi**, and Maytham Safar, *Cyclic Entropy of Complex Network*. ASONOMA/IEEE/ACM, Turkey (2012).
11. Ibrahim Sarkhoh, **Khaled Mahdi**, and Maytham Safar, *The limitations of the BP Algorithm for Counting Cycles in Random Networks*. ASONOMA/IEEE, Turkey (2012).
12. Maytham Safar, **Khaled Mahdi**, and Ghufra Alshareda, *Feedback Capacity of Random Networks*. NBIS, IEEE Melbourne, Australia (2012).
13. **K. Mahdi**, A. Almajid, M. Safar, H. Riquelume and S. Torabi *Social Network Analysis of Kuwait Publicly Held Corporations*. 3rd Conference on Ambient System (ANT), Niagara Falls, Canada (2012)

f) 2011

14. **K. Mahdi**, M. Safar, I. Sarkhoh and H. Farahat *On maximizing the entropy of complex network* 2nd Conference on Ambient System (ANT), Niagara Falls, Canada (2011)
15. A. Eltoukhy, M. Safar and **K. Mahdi** *Modeling, Analysis and Characterization of Dubai Financial Market as a Social Network* Second International Conference on Software Engineering and Computer Systems (ICSECS), Kuantan, Malaysia (2011)
16. F. **Mahdi**, M. Safar, and **K. Mahdi**, *Detecting Cycles in Graphs using Parallel Capabilities of GPU*. In the Proceedings of the International Conference on Digital Information and Communication Technology and its Applications (DICTAP). Communications in Computer and Information Science, Volume 167, Part II, 193-205, Springer (2011)

g) 2010

17. Ibrahim Sarkhoh, **Khaled Mahdi**, and Maytham Safar, *Computation Non-Intensive Estimation Algorithm for Counting Cycles in Random Networks*. In the Proceedings of the 12th International Conference on Information Integration and Web-based Applications & Services iiWAS (2010).
18. **K. Mahdi**, M. Safar, and S. Torabi, *Diffusion and Reverse Diffusion Processes in Social Networks: Analysis using the Degree of Diffusion α* , U-Media, Paris (2010)
19. M. Mujiburahman, and **K. Mahdi**. *Modeling of Pervaporation Process Performance*, CHISA, Czech Republics (2010)

h) 2009

20. **Khaled A. Mahdi**, Mohsen H. Al-Rashed, Ammar A. Alsairafi and Janusz Wójcik, *CFD Simulation of A Conical-Cylindrical Crystallization Unit Multi-Phase Eulerian Model*. 7th International Conference on CFD in the Minerals and Process Industries CSIRO, Melbourne, Australia, December 9-11, (2009)
21. Maytham Safar, Hisham Farahat, and **Khaled Mahdi**. *Analysis of Dynamic Social Network: E-mail Messages Exchange Network*. 11th International Conference on Information Integration and Web-based Applications and Services – iiWAS, Malaysia (2009)
22. Maytham Safar, **Khaled Mahdi**, and Ali Qassim, *Universal Cycles Distribution Function of Social Networks*. First International Conference on Networked Digital Technologies, (2009)
23. Maytham Safar, **Khaled Mahdi**, Hisham Farahat, Saud Albehairy, Ali Kassem, Khalid Alenzi, *Approximate Cycles Count in Undirected Graph* First International Conference on Networked Digital Technologies, July 28-31 (2009)
24. N. El-Sayed, **K. Mahdi**, and M. Safar, *Cyclic Entropy Optimization of Social Networks using an Evolutionary Algorithm*. Proceedings of IEEE International Conference on Computational Science and Its Applications, ICCSA, Korea (2009)
25. **K. Mahdi**, M. Safar, and S. Torabi, *A Model of Diffusion Parameter characterizing Social Network* Proceedings of e-Society/IADIS, Barcelona, Spain (2008)
26. **K. Mahdi**, L. Jamal and M. Safar *Characterizing Collaborative Social Network using Cyclic Entropy, case study: WikipediaTM*, Proceedings of IADIS/WBC (2009)
27. M. Safar, N. Al-Sayed, and **K. Mahdi** *Cyclic Entropy Optimization of a Scale-Free Social Network using Evolutionary Algorithm*, Proceedings of IADIS/WBC (2009)
28. G. Zahedi, A. Elkamel and **K. Mahdi** *Analytic Hierarchy Process Applied to SO_x Emission in a Power Plant Station Plant*, Proceedings of 2nd conference on Environment and Sustainability, WES, Kuwait (2009)

i) 2008

29. **K. Mahdi**, H. Farahat and M. Safar, *Temporal Evolution of Social Networks in PaltalkTM* Proceedings of iiWAS2008, Linz, Austria November 24–26, (2008)
30. E. Sarkhoh, M. Safar and **K. Mahdi** *Classification of Social Networks*, Proceedings of IADIS-WWW/Internet 2008, Freiburg, Germany, October 13-15 (2008)
31. M. Safar, **K. Mahdi** and E. Sarkhoh *Maximum Entropy of Fully Connected Social Networks* Proceedings of IADIS International Web-Based Communities, Netherland, July 22-27 (2008)
32. **K. Mahdi**, M. Safar, and E. Sarkhoh *Entropy of Robust Social Networks*, Proceedings of IADIS International e-Society, Algarve, Portugal, April 9-12 (2008)

j) 2007

33. **K. Mahdi**, G. Zahedi, R. Gheshlaghic, and A. Lohi, *Optimization of Kuwait Oil Refinery-Desalting Plant: using design of experiments*, 2nd International Conference on “Modeling, Simulation and Applied Optimization,” Abu Dhabi, UAE, March 24 - 27, (2007) – Organizer of special session on Process Optimization

k) 2005

34. Janusz Wojcik, Mohsen H. Al-Rashed and **Khaled A. Mahdi**, *Theoretical and Experimental Analysis of Radial Thickener*, WSTA 7th Gulf Water Conference “Water in the GCC Towards an Integrated Water Resources Management,” Kuwait, November 19-23 (2005)

l) 2004

35. S. Ali, F. Malallah, and **K. Mahdi**, *Kinetics of the Esterification reaction of Acetic Acid with Butane over Amberlyst 15*, 16th International Congress of Chemical and Process Engineering, Paraha, Czech Republic, August 22-26 (2004)
36. S. Drobiova and **K. Mahdi**, *DNA Precipitation in the Presence of Multivalent and Polyelectrolyte Salts*, 16th International Congress of Chemical and Process Engineering, Paraha, Czech Republic, August 22-26 (2004)
37. **K. Mahdi**, A. Khan and A. Sattar, *Temperature Dependency on Multicomponent Adsorption*. International Engineering Conference. Muta, Jordan, April 26-28 (2004) – Chair of Modeling and Simulation session
38. **K. Mahdi**, *Building Up an Engineer* The First Conference of Insights on Successful Engineering Practices. Beirut, Lebanon, January 20-30 (2004)

m) 2003 - 2000

39. Hussein, **K. Mahdi**, and A. El-Kamel, *Supply Chain Management of Refinery* OR 45, Keele Conference Park, United Kingdom, September 3-5 (2003)
40. M. R. Riazi, M. Al-Qallaf, and **K. Mahdi**, *Prediction of Viscosity of Hydrocarbon Fluids at High Pressures*. 15th International Congress of Chemical and Process Engineering, Paraha, Czech Republic, August 25-29 (2002)
41. **Khaled A. Mahdi** and Monica Olvera de la Cruz, *Cross-Linked Model of Polyelectrolyte-Salt Solutions*. International Chemical Conference II, Singapore (2001)

n) 1999 - 1993

42. **Khaled A. Mahdi** and Monica Olvera de la Cruz, *Phase Diagrams of Salt-Free Polyelectrolyte Solutions* American Physical Society annual meeting, Atlanta USA. (1999).
43. **Khaled A. Mahdi** and Monica Olvera de la Cruz, *Generating Phase Diagram using Mathematica®*, American Institute for Chemical Engineers Students meeting, Evanston, USA. (1998).
44. **Khaled A. Mahdi**, *Methylation of Model Compound of Coal and Oil Shale*, National Union of Kuwaiti Students 2nd Scientific meeting, London UK (1993)

5. GENERAL PUBLICATIONS AND ARTICLES

1. **Khaled A. Mahdi**, *The future of the petrochemical industries in Kuwait*, “The Industrialist” [Arabic], the official magazine of Kuwait Industries Union, March issue (2012)
2. **Khaled A. Mahdi**, *PM-ish Question!* - The PMI-Gulf Chapter newsletter (2011)
3. **Khaled A. Mahdi**, *Project Selection by Analytic Hierarchy Process, Case Study: Kuwait's Power Station Pollution Control*. Project Management Institute Gulf Chapter newsletter (2010)
4. Souhaila Almutawa and **Khaled A. Mahdi**, *PMI Earns ISO 17024 Accreditations*. Gulf Project Management newsletter, pp. 20-22, March (2008)
5. **Khaled A. Mahdi** and Zuzana Drobiova, *Assessment of Sulfur Transportation and Storage*, Al-Mohandeson, Kuwait Engineers Society, December issue (2006)

6. PATENTS

1. Ghufran Al-Shiridah, **Khaled Mahdi** and Maytham Safar, *System and Method for Determining the Feedback Capacity of Information Distributed in Complex Networks (Cyclo-Feed)*. US Patent Docket 23588.65 [2018]

Recent professional development activities

Role in Service	Service Type	Surface Title / Description	Year
Supreme Council of Education	Council member	General policies committee, Supreme Council of Education	2016-2020
Government Universities Council	Council Member	Policies and Strategies	2019-2024
Public Authority of Civil Information	Board Member	Development Policies	2015-2024
The National Fund for Small and Medium Enterprises Development	Board Member	– Executive, bylaws and regulations committee– Strategies and policies committee, Deputy Director-General Selection	2019-2022
Public Authority for Housing Welfare	Board Member	General policies	2017-2024
Kuwait Institute for Scientific Research	Board Member	General policies	2017-2024
Public Authority of Industries	Board Member	Dispute resolution	2017-2024
Kuwait Health Care Hospitals Management (Enayah, SOE)	Board Member	Governance	2017
Public-Private Partnership Supreme Committee	Member	Project Selection	2017-2023

Supervision of graduate students (2017 – Present)

Title	Type	Name of Student	Date of Completion
Diffusion in Twitter. (Completed thesis 2013) – with Prof. M. Safar	Thesis	Mohammed Hareesha,	2013
Diffusion in complex network. (Completed thesis 2013) – with Prof. M. Safar	Thesis	Ghufran Alshirdiah	2013
Social Network Analysis of Interlocking Directorates in Kuwait Stock Market (Completed MBA project since 2011) – jointly with Kuwait Maastricht Business School with Prof. R. Hernan	Thesis	Ahmad Almajid,	2011
Deterministic Diffusion in Social Network, (Completed thesis 2009) – with Dr. M. Safar	Thesis	Sadeq Torabi,	2009
Thermodynamics of Social Network (Completed thesis 2009) – with Dr. M. Safar	Thesis	Ebrahim Sarkhoh	2009
Phase Diagrams of DNA solutions in the presence of Multivalent and Polyelectrolyte Salts (Completed thesis 2005) – with Dr. S. Ali	Thesis	Zuzana Drobiova	2005
Heterogeneous Catalytic Esterification of Butanol and Acetic Acid (Completed thesis 2004) – with Dr. S. Ali	Thesis	Faisal Mallalah	2004
Viscosity Estimation in Petroleum Fluids (Completed thesis 2003) – with Prof. M. Riazi	Thesis	Montah Al-Qallaf.	2003
Supply Chain Management of Refinery Operations (Completed thesis 2003) – with Prof. A. Haddad	Thesis	Ammar Hussein	2003

Title	Type	Name of Student	Date of Completion
Application of the Analytic Hierarchy Process to SO ₂ Emission Reduction in Kuwait Power Stations (Completed, thesis 2001) - with Dr. C. Baker	Thesis	Sana Al-Ghareeb	2001