

بسم الله الرحمن الرحيم

Curriculum Vitae



Personal Details

Name: Mohamed Hassan M. Gaily M Khair

Date of birth: 20/11/1967.

Place of birth: Omdurman, Sudan.

Nationality: Sudanese.

Marital status: Married and has four kids.

Language: Arabic, English.

Address:

Chemical Engineering Department, Engineering College

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Qualifications:

1. PhD. In Chemical Engineering (Bio-chemical), Faculty of Engineering, University of Khartoum, Sudan, 2010.
2. MS (Master of Science), Faculty of Engineering, Universiti Putra Malaysia (UPM), Malaysia, 1999.
3. B Sc. (Honors), Chemical Engineering, University of Khartoum (U of K), Sudan, 1992.

Employment History:

1. **Researcher** at the Chemical Engineering Department, Engineering College, King Saud University, KSA. 2002-Now.
2. **Assistant Professor** (Part-time) at Department of Chemical Technology, Riyadh College of Technology, KSA, 2011
3. **Lecturer**, Chemical Engineering Department, University of Khartoum, Sudan. (2000 - 2002).
4. **Part-time lecturer**, Karary University, Sudan. (1999 - 2000).
5. **Teaching Assistant**, Chemical Engineering Department, (U of K), Sudan. (1992 - 2000)
6. **Demonstrator**, Faculty of Engineering, UPM, Malaysia. (1996 - 1998).
7. **Shift-in-charge Engineer**, Dye House, Cotton Textile Mills (Ltd.), Sudan. (From 7/5/1992 to 13/8/1992).

Teaching Experience

I taught the following courses:

1. Process Equipment Design (U. Of K, Karary University)
2. Computation in Chemical Engineering (U. Of K, Karary University)
3. Heat Transfer Operations (King Saud University)
4. Mass Transfer Operations (King Saud University)
5. Industrial Safety (U. Of K)
6. Chemical Reaction Engineering (U. of K. and Riyadh College of Technology)
7. Chemical Process Industries (U. of K)

Honors and Awards and Scholarships:

1. Al-Masmak Distinction Plates Award from King Saud University for distinguished research, publication and registration of an international patent (US patents), Riyadh, 4/7/2012.
2. Universiti Putra Malaysia (UPM), Serdang, Malaysia, Graduate assistantship (GA), Feb. 1997- Dec. 1997.
3. Ministry of Higher Education and Scientific Research (Sudan) Scholarship for Master Degree at UPM, July 1996-July 1999

Patents:

1. M. El Nashef, **M. H. Gaily**, S. M. Al-Zahrani and A. E. Abasaeed, "Method for Separating Fructose and Glucose", *USA Patents* **7,942,972** (May 17, 2011).

Research Interest and Grants

My research interests was focused on separation of glucose and fructose by selective fermentation, production of fructose Single Cell Protein CSP and bio-ethanol through bio-conversion of date sugars, applications of Ohmic heating and heat transfer operations. Also I have great interest in biological treatment of produced water. In particular I contributed to the following researches funded by different grants bodies:

1. Utilization of Dates' Syrups for the Production of Fructose and Single Cell Protein using a Glucose - Selective Yeast Strain, Project # 13-BIO1530-02, Sponsored by NSTIP, KSU, ACST (with A. E. Abasaeed, Arfat Anis, and Ashraf Yousuf) . Approved (2015 – 2017).
2. Large Scale Selective Fermentation of Saudi Dates' Syrups into Fructose and Bioethanol. *Sponsored by the National Plan of science and technology*, KSU, KACST. (With A. E. Abasaeed, H. K. Atiyeh, S. M. Al-Zahrani and A. K. Yousif). (2010-2013).
3. "Evaluation of Ohmic Heating Technique as a Desalination Process and Waste Water Treatment". *Sponsored by Shaikh Mohammad Alamoudi Chair for Water Researches King Saud University* (with Dr. Alhussein Assiry, 2009-2010)
4. "Decolorization of date's syrup" *Sponsored by the Research Center, College of Engineering, King Saud University, Saudi Arabia.* (With Dr. Hassan Atiyeh). (2007-2008)
5. Isomerization and kinetics of glucose into fructose. *Sponsored by the Research Center, College of Engineering, King Saud University, Saudi Arabia.* (With Prof Ahmed E. Abasaeed). (2007-2008)
6. "A Theoretical and Experimental Investigation of Transport Phenomena in a Cooling Tower". *Sponsored by the Research Center, College of Engineering, King Saud University, Saudi Arabia.* (With Prof. Murad Boumaza). (2006-2007)

7. "Investment opportunities in small and medium industries in the Kingdom of Saudi Arabia.". *Sponsored by the Deanship of Scientific Research at King Saud University*, The Second National Applied Research Program. (with Prof. Kamel M. Wagiallah, and Maumoon Mohammed Abbas Abdul Wahab)
8. "Utilization of dates in KSA for processing and production of fructose", funded by *King Abdul Aziz City for Science and Technology KACST*, Saudi Arabia. (With S. M. Al-Zahrani, Ahmed E. Abasaeed and Al-Hussein Assiry). (2004-2007)

Publications:

Refereed Journal Publications:

1. M. D. Putra, A. E. Abasaeed, S. M. Al-Zahrani, H. K. Atiyeh, **M. H. Gaily**, A. K. Sulieman and M. A. Zeinelabdeen, "Kinetic Modeling and Enhanced Production of Fructose and Ethanol From date fruit extract", *J. Chem. Eng. Commun.*, 202(12), 1618-1627 (2015).
2. M D Putra, A E. Abasaeed, E M. Ali, A K. Sulieman, **M H. Gaily**, M A. Zeinelabdeen "Utilization of Pitted Dates for the Production of Highly Concentrated Fructose Syrups by *S. Cerevisiae*" *Chemical Engineering Transaction*, VOL. **38**, 397-402, 2014
3. M.D. Putra, A.E. Abasaeed, M.A. Zeinelabdeen, **M.H. Gaily** and A.K. Sulieman, "Selective fermentation of pitted dates by *S. cerevisiae* for the production of concentrated fructose syrups and ethanol", *Journal of Physics: Conference Series*, 495 (2014) 102034
4. M. D. Putra, A. E. Abasaeed, S. M. Al-Zahrani, **M. H. Gaily**, A. K. Sulieman, M. A Zeinelabdeen and H. K. atiyeh, "Production of fructose from highly concentrated date extracts using *Saccharomyces cerevisiae*", *Biotechnol Lett*, 36(3):531-536, March 2014.
5. M. A. Zeinelabdeen, A. E. Abasaeed, **M. H. Gaily**, A. K. Sulieman and M. D. Putra, "Coproduction of fructose and Ethanol from Dates by *S. cerevisiae* ATCC 36859" *International Journal of Chemical, Nuclear, Metallurgical and Materials Engineering* Vol:7 No:10, 2013.
6. Sulieman A K, **Gaily M H**, Zeinelabdeen M A, Putra, M. D. and Abasaeed A E, "Production of Bioethanol Fuel from Low-grade-Date Extract",

- International Journal of Chemical Engineering and Applications*. vol. 4, no. 3, pp. 140-143, June, 2013.
7. **M. H. Gaily**, A. K. Sulieman, and A. E. Abasaeed, " Kinetics of a Three-Step Isomerization of Glucose to Fructose Using Immobilized Enzyme," *International Journal of Chemical Engineering and Applications* vol. 4, no. 1, pp. 31-34, February, 2013.
 8. **Gaily, M H**; Suleiman, A K; Zaielabedeen, M A; Al-Zahrani, S M; Atiyeh, H and Abasaeed, A E. "The effect of Activation Time on the Production of fructose and bioethanol from date extract." *African Journal of Biotechnology*, Vol. 11(33), pp. 8212-8217, April, 2012
 9. ***Mohamed H Gaily**, Basheir Mohamed Elhassan, Ahmed E. Abasaeed, and Mohammad Al-Shrhan. "Isomerization and Kinetics of Glucose into Fructose", *International Journal of Engineering & Technology*. IJET-IJENS Vol: 10 No: 03, 1-5., June, 2010
 10. A.M. Assiry, **M. H. Gaily**, M. Alsamee and A. Sarifudin. "Electrical conductivity of seawater during ohmic heating, *Desalination*", *Volume 260, Issues 1-3, 30 September 2010, Pages 9-17*,
 11. ***Gaily, Mohamed H.**; Elhassan, Basheir M.; Abasaeed, Ahmed E.; and Al-Zahrani, Saeed M. "A Direct Process for the Production of High Fructose Syrups from Dates Extracts," *International Journal of Food Engineering*: Vol. 6: Iss. 3, Article 12. June, 2010.

Conferences

1. *VIII. International Science Conference*, Amsterdam, the Netherlands, August 7-8, 2014.
2. The 2nd International Conference on Science & Engineering in Mathematics, Chemistry and Physics 2014 (ScieTech 2014) Jakarta Indonesia from 13 – 14 January 2014.
3. 2nd International Conference on Chemical and Process Engineering-ICCPE 2013, Kuala Lumpur, Malaysia, June 8-9, 2013.
4. *The XXXIV. International Conference on Chemical Engineering 2013*, Bali, Indonesia, October 30-31, 2013.
5. 2nd Algerian Congress on Process Engineering, Algiers- May 2009.

6. 11th Euro-Arab Conference for the Environment and Environmental Technology, Hanse City Rostock, Germany. (24-26/4/2000)
7. Malaysian Science & Technology Congress '99" 6-8 December 1999, Johor Baharu, Malaysia.

Training Courses and Certificates:

1. **"JUSUR Learning Management System LMS"**, National Center for E-learning and Distance Learning, Ministry of Higher Education, Kingdom of Saudi Arabia, 1-3 April 2012 (15 training hours).
2. Certificate of merit from the Faculty of Engineering, King Saud University on the outstanding efforts in order to get the ABET Accreditation Certificate (Academic year 2009/2010).
3. **"E-learning and its tools"**, National Center for E-learning and Distance Learning, Ministry of Higher Education, Kingdom of Saudi Arabia, 4-5 May 2009 (12 training hours).
4. **"Effective use of Smart Classrooms"** Deanship of skills Development, King Saud University, Saudi Arabia. -20 training hours-(4-7/5/2008)
5. **"The Development of Knowledge in the Domain of Specialization"** Deanship of skills Development, King Saud University, Saudi Arabia. (28/9/2009)
6. **"Planning for Effective Teaching"** Deanship of skills Development, King Saud University, Saudi Arabia. -24 training hours-(19-21/4/2008)
7. **"Scientific training workshop on lead poisoning"**, Organized by the Saudi Ministry of Health in collaboration between WHO and the Center for Environmental Health Activities, Amman. (Riyadh, 11-13/7/1424 H)
8. **"Laboratory Mechanical and Chemical Tests"**, Training Center of Metallurgy Factories, Iran (1/10-30/10/1995)
9. **"Petroleum Refining and Refineries Operations"**, Chemical Engineering Department, U. of K. and Concorp Petroleum, Sudan (23/2-21/3/1993)
10. Optional training for 4th year U of K students, organized by Chemical Engineering Department, Kuwait University, Kuwait. (9/5-8/6/1990)
11. Operational and maintenance training in the Production Department, El-Gunaid Sugar Factory, Sudan (6/4-9/5/1988).

Departmental Committees Memberships

1. Academic Accreditation and Quality Assurance Committee.
2. Strategic Plan Committee.

Workshops

1. **"Learning outcomes"**, Engineering College, King Saud University, 13/5/2012
2. **"The Mechanisms of Implementing the Strategic Plan of Engineering College"**. Engineering College, King Saud University, (1/5/2012).
3. **"Biofuels: the pros and cons"**, King Abdulaziz City for Science and Technology, 15/4/2012
4. **"Experience of Civil Engineering Program towards NCAAA Accreditation"**, Engineering College, King Saud University, 2011.
5. **"Starting a Biotechnology Business- How Badir for biotechnology Can Help You"**, Badir For Biotechnology and Oxford Innovation, 2010 (Certificate)
6. **"National Commission for Academic Accreditation and Assessment (NCAAA) requirements"**, Engineering College, King Saud University, 2010.
7. **"Course portfolio and Assessment"** College of Science, King Saud University

Consultancy and technical services

1. ABET Self-Study Report for the Chemical Engineering at King Saud University Riyadh, Kingdom of Saudi Arabia (May 2015).
2. Expert evaluator for Ithra Knowledge activity organized by Saudi Aramco in Riyadh, Saudi Arabia (29 July- 29 August 2014), Report submitted to Saudi Aramco (October 2014).
3. Date Technical Business Incubation Center (DTBIC), Report submitted to King Abdullah Institute for research and consulting Studies, (May 2014)
4. The National Commission for Academic Accreditation & Assessment NCAAA Self-Study Report for the Chemical Engineering at King Saud University Riyadh, Kingdom of Saudi Arabia (March 2014).
5. Vocational Training and Employment Project, Report submitted to Engineering College, King Saud University, (January 2014).

Membership of professional Societies

1. Saudi Chemical Engineering Society
2. Saudi Chemical Society

Other Activities

1. 4th year Chemical Engineering students training supervisor, U. of K., Sudan. (12/6-25/6/2000, El-Obied Refinery, Sudan).
2. 4th year Chemical Engineering students training supervisory committee member, U. of K., Sudan, for the following periods:
13/7-28/7/1994 (Syria)
17/9-3/10/1993 (Syria)