

CURRICULUM VITAE

Dr. Ahmad M. Al-Haj-Ali AbuYaghi

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EDUCATION

- ✚ **Ph.D.** Chemical /Environmental Engineering, McGill University, Montreal, Canada, 1990.
Thesis Title: "Characterization of the Alkaline Metal Dissolution and Sulfur Dioxide Absorption of Fly Ash Slurries".
- ✚ **M.Eng.** Chemical / Environmental Engineering, McGill University, Montreal, Canada, 1985.
Thesis Title: "Waste Pulps as Biosorbents for Metal Recovery".
- ✚ **B. Sc.** Chemical Engineering, Alexandria University, Alexandria, Egypt, 1979.



WORK EXPERIENCE

- ✚ Professor, Dept. of Chemical Eng., University of Jordan, 2015.
- ✚ Associate Professor, Dept. of Chemical Eng., University of Jordan, 2002.
- ✚ Associate Professor, Dept. of Environmental Eng., University of Dammam, Saudi Arabia, Sept. 2011-2013.
- ✚ Visiting Professor, Dept. of Petroleum and Chemical Eng., Sultan Qaboos University, Oman, 2004- 2008.
- ✚ Assistant Professor, Dept. of Chemical Eng., University of Jordan, 1990.
- ✚ Teaching and Research Assistant, McGill University, Canada, 1987-1989
- ✚ Teaching and Research Assistant, University of Jordan, 1979-1981.

SCHOLARSHIPS

1. DAAD Award, Institut für Umweltverfahrenstechnik, University of Bremen, Germany (2002).
2. McGill University Research Assistantship, Canada (1987-1989).
3. University of Jordan Scholarship, Jordan (1981-1986).
4. Ministry of Education Scholarship, Jordan (1974-1979).



CURRICULUM COURSES

At the University of Jordan (1990-2004, 2008-2011, 2013-)

GRADUATE:

- 0905745 Interfacial Processes (M.Sc. Chemical Engineering).
- 0905781 Special Topic: Pollution Control (M.Sc. Chemical Engineering).
- 0905757 Wastewater Treatment Technology (M.Sc. Environmental Science and Management).
- 0901775 Physicochemical Treatment (M.Sc. Civil Engineering /Water and Environment).
- 0901772 Air Pollution (M.Sc. Civil Engineering /Water and Environment).
- 0905757 Environmental Impacts of Energy (M.Sc. Energy Management).

UNDERGRADUATE:

- 0905322 Thermodynamics(1)
- 0905324 Physical Chemistry
- 0935473 Environmental Engineering
- 0935474 Wastewater Treatment (Technical Elective)
- 0935475 Air Pollution (Technical Elective)
- 0905342 Particulate Solids Operations
- 0905542 Corrosion Engineering (Technical Elective)
- 0905461, 462, 463 Chemical Engineering Laboratory (1), (2) and (3).
- 0905509 Selected Topics: Electrochemical Technology (Technical Elective)
- 0905599 Final Year (Graduation) Project
- 0905597 Practical Project



At Sultan Qaboos University (2004-2008)

- CHPE 3211 Applied Physical Chemistry
- CHPE 4112 Chemical Eng. Thermodynamics
- PNGE 4302 Heat Transfer
- CHPE 4202 Corrosion (Technical Elective)
- CHPE 4812 Special Topics: Environmental Pollution (Technical Elective)
- CHPE 4812 Special Topics: Applied Electrochemistry (Technical Elective)
- CHPE 4312 Chemical Engineering Lab I, II
- CHPE 5512 Final Year Project



At the University of Dammam (2011-2012)

- CHEM 221 General Chemistry
- CHEM 321 Organic Chemistry
- BIOL 312 Environmental Microbiology
- ENVN 311 Fundamentals of Environmental Engineering
- ENVN 432 Unit Operations II
- HUMN 512 Environmental Laws & Regulations
- ENVN 503 Environmental Impact Assessment (Elective)
- ENVN 501 Environmental Project Design



M.Sc. THESES SUPERVISED:

- 1) Industrial Wastewater Treatment by Flotation (1993).
- 2) Adsorption of Acid Dyes by Local Natural Wool (1996).
- 3) Removal of Ammonia from Industrial Wastewater Using Jordanian Zeolite, Co-supervisor with Prof. Dr. No'man M. Haimour (2001).
- 4) Removal of Heavy Metals from Electroplating Wastewater Using Jordanian Zeolite (2002).
- 5) Effect of vanadium addition on the chemical corrosion resistance of commercially pure aluminum grain refined by titanium at different temperatures, Co-supervised by Prof. Dr. Adnan I. O. Zaid (2011).

B.Sc. STUDENTS' PROJECTS:

Supervised about 30 design projects involving over than 120 students (in teams) and 24 practical projects (28 students) in the fields of Chemical and Petrochemical Engineering as well as Environmental Engineering and Water /Wastewater Treatment at the University of Jordan (1990-Present), Sultan Qaboos University (2004-2008) and University of Dammam (2012-2013).

SPONSORED RESEARCH PROJECTS

1. **2012:** "Thermodynamics and kinetics of corrosion and corrosion inhibition for aluminum alloys exposed to acidic, chloride-containing environment using green chemical inhibitors", supported by Deanship of Scientific Research, University of Dammam; Principal investigator with Dr. Nabil Al-Jarrah and Dr. Nuhu D. Muaazu.
2. **2012:** "Electro-decontamination of Phenolic Wastewater under Different Anodic Current Modes", supported by Deanship of Scientific Research, University of Dammam; Co-investigator with Prof. Esam Abdul-Majid and Dr. Nuhu D. Mu'azu.
3. **2011:** "Framework, baseline and technical-managerial guidelines for impact mitigation in EIA studies for industrial development in Jordan", Sabbatical leave project from the University of Jordan.
4. **2007:** "Separation of metal ions from aqueous solutions using precipitate dissolved air flotation", Sabbatical leave project from the University of Jordan
5. **2003:** "Modeling the kinetics of chemisorption on surfaces of non-porous adsorbents", supported by Deanship of Academic Research, University of Jordan.
6. **1993:** "Use of local materials as sorbents for removal of heavy metals from wastewater", supported by Deanship of Academic Research, University of Jordan.

SELECTED PUBLICATIONS / RESEARCH PAPERS:

1. **Al-Haj-Ali, A. and A. K. Al-Matar. 2023.** Simulation of Breakthrough Curves of Pb Ions Sorption by Natural Zeolite using Axial Dispersion and External Mass Transfer Models. Accepted for publication in *Jordan Journal of Earth and Environmental Sciences*.
2. **Al-Haj-Ali, A. 2020.** Factors Affecting the Rate of Absorption of Sulfur Dioxide into Fly Ash Suspensions. *Jordan Journal of Earth and Environmental Sciences* 11 (4), 282-290. *Jordan Journal of Earth and Environmental Sciences* 11 (4), 282-290.
3. Mu'azu, N.D., M. Al-Yahya, **A. Al-Haj-Ali** and I. Abdel-Magid. **2016.** "Specific energy consumption reduction during pulsed electrochemical oxidation of phenol using graphite electrodes". *Journal of Environmental Chemical Engineering*, 4 (2), pp. 2477–2486.
4. **Al-Haj-Ali, A. M.** and L.M. Marashdeh. **2014.** Removal of Aqueous Chromium (III) Ions Using Jordanian Natural Zeolite Tuff in Batch and Fixed Bed Modes. *Jordan Journal of Earth and Environmental Sciences* 6 (2), 45-52.
5. **Al-Haj-Ali, A. M.,** Jarrah, N.A., Mu'azu, N.D. and Rihan, R.O. **2014.** "Thermodynamics and Kinetics of Inhibition of Aluminum in Hydrochloric Acid by Date Palm Leaf Extract". *Journal of Applied Science and Environmental Management* 18 (3), 543-551.
6. Mashal, A. , J. Abu-Dahrieh, A. A. Ahmed, L. Oyedele, N. Haimour, **A. Al-Haj-Ali** and D. Rooney. **2014.** "Fixed-bed study of ammonia removal from aqueous solutions using natural zeolite", *World Journal of Science, Technology and Sustainable Development*, Vol. 11 (2), pp.144-158.
7. Zaid, A. I. O., **A. Al-Haj-Ali** and G T A. Allawi. **2014.** "Effect of V addition to Al and Al grain refined by Ti on chemical corrosion rates in NaOH solution with and without inhibitor at different temperatures", *IOP Conf. Series: Materials Science and Engineering* 60, pp.1-9. doi:10.1088/1757-899X/60/1/012037
8. Zaid, A.I.O., G.T.A. Allawi, **A. Al-Haj-Ali.** **2012.** "Effect of Vanadium Addition to Aluminum and Aluminum Grain Refined by Titanium on their Chemical Corrosion Rate in Acidic Solution, HCl, at Different Temperatures", *Key Engineering Materials*, Vols. 510-511, 481-486.
9. **Al-Haj-Ali, A. 2012.** "A Theoretical Model for Liquid-Solid Chemisorption of Pollutants on the Surfaces of Non-Porous Adsorbents", *Mu'tah Journal for Research & Studies*, Vol. 27 (1), 53-74.
10. **Al-Haj-Ali, A. 2010.** "Separation of Metal Ions from Aqueous Solutions Using Precipitate Dissolved Air Flotation", *Dirasat, Engineering Sciences*, 37 (1), 54-66.

11. Marashdeh, L.M. and **Al-Haj-Ali, A. M. 2009**. "Uptake of Cd(II) Using Natural Zeolite: Batch and Continuous Fixed-Bed Studies", *The Journal of Engineering Research*, 6 (2), 1-11.
12. **Al-Haj-Ali, A.** and Al-Hunaidi, T.F. **2007**. "Sorption of Aqueous Heavy Metal Cations by Fixed Beds of Natural Zeolite", *Mu'tah Journal for Research & Studies*. 22 (2), 81-100.
13. **Al-Haj-Ali, A.** and Al-Hunaidi, T. **2004**. "Breakthrough Curves and Column Design Parameters for Sorption of Lead by Natural Zeolite", *Environmental Technology* 25 (9), 1009-1019.
14. Mashal, A.T., Haimour, N. M. and **Al-Haj-Ali AbuYaghi, A. 2002**. "Removal of Ammonia from Industrial Wastewater Using Jordanian Zeolite". Proceedings, *Jordan International Chemical Engineering Conference (IV)*, Vol. I, Amman-Jordan, Sept. 22-24, 2002, pp. 161-180.
15. **Al-Haj-Ali, A.** and El-Bishtawi, R., **2001**. "Sorption of Metal Ions by Olive Cake: Equilibrium and Kinetic Study", *Mu'tah Journal for Research & Studies* 16 (3), 81-102.
16. El-Bishtawi, R. and **Al-Haj-Ali, A. 2001**. "Sorption Kinetics of Lead Ions By Zeolite Tuff", *Journal for Environmental Science & Health*, A36 (6), 1055-1072.
17. Abdel-Razeq, S. and **Al-Haj-Ali, A. 2000**. "Adsorption of Acid Dyes on Natural Wool Yarns", *Dirasat, Engineering Sciences*, 27 (1), 21-34.
18. **Al-Haj-Ali, A.** and El-Bishtawi, R. **1997**. "Removal of Lead and Nickel Ions Using Zeolite Tuff", *Journal of Chemical Technology & Biotechnology* 69, 27-34.
19. **Al-Haj-Ali AbuYaghi, A. 1996**. "Management of Hazardous Wastes: A Perspective of Jordan", Proceedings, *First Conference on the Role of Engineering Towards Better Environment*, Alexandria, Egypt, pp. 645-657.
20. Naser, J. T. and **Al-Haj-Ali, A. 1995**. "Flotation as Primary Treatment for Industrial Wastewater", *Dirasat-Pure & Applied Sciences* 22(3), 670-688.
21. **Al-Haj-Ali, A.;** Cooper, D.G. and Neufeld, R.J. **1987**. "Uptake of Metal Ions by Sulphonated Pulp", *Journal of Water Pollution Control Federation* 59 (2), 109-114.

INDUSTRIAL CONSULTATION EXPERIENCE

- ✚ Conducted Environmental Impact Assessment studies with collaboration of other experts and engineers for several projects including the Development Zones in Jordan (supported by USAID, Amman, 2010), Table Salt manufacturing in Al-Azraq Oasis Conservation Project (supported by United Nations Development Program, UNDP, 1995) and the upgrading of potable water treatment plant at Wadi Al-Arab (Water Authority of Jordan, 1994).
- ✚ Conducted Industrial Consultation Studies , including process design, in collaboration with other faculty members and professionals, through the University Center for Consultations, Studies and Community Service including the following: *Treatment of odorous gases from olive cake processing; Treatment of sour water at the petroleum refinery; Odor control at yeast manufacturing; Industrial waste management for pharmaceutical factories and Industrial waste management for several food processing plants (1997-2002).*

TRAINING SHORT COURSES

- Hazardous Waste Management given at the University of Jordan, Amman.
- Industrial Wastewater Treatment given at Sultan Qaboos University (Muscat, Oman), Hashemite University (Zarqa-Jordan), Jordan Phosphate Mines Company (Aqaba) and the University of Jordan (Amman).

ACADEMIC AND PROFESSIONAL SERVICE (Partial List)

- 1) Member, College ABET Accreditation Committee, School of Engineering, University of Jordan, 2017-2020.

- 2) Head, ABET Accreditation Committee, Dept. of Chemical Engineering, 2013/2014, 2016/2017 and 2017/2018.
- 3) Member, College Training Committee, School of Engineering, University of Jordan, 2014-2017.
- 4) Member, Graduate Studies Committee, Dept. of Chemical Engineering, University of Jordan, 2016/2017, 2019/2020.
- 5) Member, Ad-hoc Committee for Accreditation, Higher Education Accreditation Committee, September, 2014
- 6) Team Member, EGREEN Project on Development of Environmental Engineering Undergraduate Curricula, Erasmus Plus, EU, 2016-2020.
- 7) Design Team Coordinator for Science and Technology Group, Climate Change and Sustainability Policy (CLIMASP) Project, TEMPUS, EU, 2014-2016.
- 8) Organizing committee of International Chemical Engineering Conference II, October, 2010, Amman-Jordan.
- 9) College Council, School of Engineering, 2008/2009, 2019/2020.
- 10) ABET Accreditation and Development Committee, Dept. of Chemical Eng., 2008/2009.
- 11) Departmental Graduate Studies Committee
- 12) Faculty and Departmental Ad-hoc Committees on establishing new programs in chemical, safety and environmental engineering
- 13) Steering committee for Interdisciplinary M.Sc. Program in Environmental Science and Management, Faculty of Graduate Studies
- 14) Faculty of Engineering Scientific Research, Library and Safety committees.
- 15) University committee on Chemical Waste Disposal.

At Sultan Qaboos University (2004-2008)

- 1) Industrial Liaison and Alumni committee, College of Engineering
- 2) Departmental Curriculum and ABET Accreditation committee
- 3) Departmental Seminar coordinator
- 4) Final Year Project coordinator.

At the University of Dammam (2011-2012)

- 1) Chairman, College Library committee
- 2) Chairman, College Conferences/ Seminars committee
- 3) College representative in Consultancy Committee on University Libraries

Jordan Engineer's Association (JEA) Service (1990-2012)

1. Member of Board, Center for Training of Engineers, JEA
2. Vice Chairman, Environment Committee
3. Member, Editorial Board of JEA Journal (Al-Mohandis Al-Urdoni)
4. Member of Graduation Projects committee
5. Member, Academic Certificates Equivalency committee
6. Member of organizational committees of the First, Second, Third and Fourth Jordanian-International Conferences of Chemical Engineering, JEA and Jordanian Universities (1993, 1996, 1999, 2002).



Other Scientific Activities

- Member of Examination Committees for over 35 M.Sc. theses in Chemical, Civil, Industrial Engineering as well as Environmental Science and Management.
- Reviewer for several referred international and national scientific journals, e.g.

- Applied Water Science (Springer)
- Journal of Materials and Environmental Sciences
- Jordanian Journal of Engineering and Chemical Industries
- Jordan Journal of Earth and Environmental Sciences
- Dirasat, Engineering Sciences
- Mu'tah for Research and Studies
- Reviewer for several book manuscripts, technical reports, academic certificates and research proposals.

SELECTED CONFERENCES, SEMINARS and WORKSHOPS:

1. Training of Trainers Workshop, EGREEN Project, Development of Environmental Engineering and Injection of Climate Change Concept for Undergraduate Curriculum, Ostwestfalen-Lippe University of Applied Science, 11-14/09/2018, Höxter, Germany.
2. Climate Change & Sustainability Policy Project, Second Regional Workshop, for Climate Change and Sustainability Policy, Frederick University, 4-8/05/2016, Nicosia, Cyprus
3. ABET Workshop organized by the Higher Education Accreditation Commission (HEAC) at Princess Sumaya University of Technology, May, 31, 2015, Amman-Jordan.
4. Climate Change & Sustainability Policy Project, National Workshops (First Workshop, 24/02/2014 and Second Workshop 16-18/06/2014), Amman-Jordan.
5. Climate Change & Sustainability Policy Project, First Regional Workshop 25-27/10/2014, Amman, Jordan.
6. Symposium on "Collaboration in Protection of Water Supply", College of Engineering, University of Dammam, Saudi Arabia, March, 18th, 2013.
7. Water Arabia 2013 Conference and Exhibition, Saudi Arabian Water Environment Association, Al-Khobar, Saudi Arabia, Feb. 4-6, 2013.
8. Symposium on "Water Management in Arid Regions", University of Dammam, Dammam, Saudi Arabia, March, 20th, 2012.
9. International Chemical Engineering Conference II, Chemical Engineering Dept., University of Jordan, Amman, October, 2010.
10. Oman-Japan Joint symposium on Preservation of Environmental and Water Resources amid Economic Development, Sultan Qaboos University, Muscat, Oman, February 6-8, 2005.
11. Regional Workshop on Research Approaches and Strategies in Water Management Sector, Capacity Building Collaborative Project, UNESCO-IHE Delft, Wageningen University (Netherlands) & University of Jordan, Amman, July, 2003.
12. Colloquium on "Intelligent Materials", HFT Company, Bremen, Germany, June 2001.
13. Training Course on ISO 14001, Environmental Management Systems, QMI-Canada & Jordan Engineers' Association, Amman, July, 2001.
14. Seminar on Wastewater Treatment and Reuse, Jordan Engineers Association, Amman, September, 2000.
15. First International Conference on the Role of Engineering towards a Better Environment, Alexandria University, Egypt (Dec., 1996).
16. First, Second, Third, Fourth and Seventh Jordan-International Conferences of Chemical Engineering (1993, 1996, 1999, 2002, 2014).
17. Industrial Wastewater Treatment Seminar, Chemical Engineering Dept., University of Jordan, Amman, April, 1991.
18. Training Workshop on Air Pollution, WHO & Ministry of Health, Amman, August, 1990.