



Curriculum Vitae **Dr. Deeb Abu Fara**

**Associate Professor, Chemical Engineering Department,
University of Jordan, Jordan.**

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Education

Ph.D In Chemical Engineering , McGill University. Montreal, Canada, 1988.

Thesis Title: Control of nozzle and cavity pressure during filling and packing in thermoplastics injection molding.

Thesis Advisors: Prof. M.R. Kamal
Prof. W.I. Patterson

M.Eng In Chemical Engineering, McGill University. Montreal, Canada, 1983.

Thesis Title: The Dynamics of injection hydraulics in thermoplastics injection molding.

Thesis Advisors: Prof. M.R. Kamal
Prof. W.I. Patterson

B.Sc In Chemical Engineering, Alexandria University, Egypt, 1977.

Work Experience

- Present Associate Professor, Chemical Engineering Department,
University of Jordan, Jordan.
- 2003 – 2007 Associate Professor, Chemical Engineering Department,
University Bahrain, Bahrain. (Leave of absence from University of
Jordan)
- 1988 – 2003 Associate Professor, Chemical Engineering Department,
University of Jordan, Jordan.
- Summer 2002 Visiting Researcher at the Process Engineering Department,
University of Kaiserslautern, Germany.
- Summer 98 Visiting Researcher at the Polymer Processing and Research Center,
(PPRC) at Queen' s University of Belfast, UK.
- Summer 95 Visiting Researcher at the Polymers Department, Ulm University,
Germany.
- Summer 95 Visit to Buss Company, Basel, Switzerland. (one week)
- Summer 94 Visiting researcher at HIMONT Research Center, Ferrara, Italy.
- Summer 93 & 92 Visiting Professor at the Department of Chemical Engineering,
McGill University, Montreal, Canada.

Principal Courses Taught at University

1. Process Dynamics and Control
2. Advanced process control and Simulation
3. Plant Design
4. Process Design
5. Process Optimization
6. Engineering Economy and Management
7. Principles of Safety
8. Process Instrumentation and Instrumental Analysis
9. Transport Phenomena
10. Strength of Materials and Equipment Design
11. Polymer Engineering
12. Advanced Polymer Processing
13. Petrochemicals
14. Physical chemistry
15. Engineering thermodynamics
16. Local Chemical Industries

Research Areas of Interest

Process dynamics and Control
Neural network control systems
Computer Simulation

Polymer Engineering and processing
Polymers for medical applications:
 Controlled drug release
 Immobilization of antibodies in polymer films and beads
Biodegradable polymers
Environmental impact of plastics industry and plastics applications
 Plastic waste management
 Recycling of plastics
Modernization of old polymer processing machines by computer
 interfacing and modern control soft-wares

Supervision of Projects

A) Master Projects:

1. Application of percolation theory on controlled drug release systems (2002)
2. Immobilization of Antibodies in Film Forming Polymers (1999)
3. Dynamic Modeling of Packed Bed Glycerol-Water Distillation Column (1997)
4. Drug Release from Some Hydrophilic Polymer Matrices (1996).
5. Modeling Absorption of CO₂ into Ammoniated Brine Solutions (1992).
6. Computer Simulation of Adaptive control for Thermoplastics Injection Molding Process (1992).

B) Design Projects

1. Production of Ethylene Vinyl Acetate (EVA)
2. Production of Acetone
3. Production of Isopropyle Alcohol
4. Production of Polyethylene
5. Production of Citric Acid
6. Recycling of Plastics
7. Production of PA & EG from Recycled PET
8. Solid Waste Management-Plastic Waste as Case Study
9. Production of Agricultural Plastic Films and Irrigation Pipes

C) Practical Projects

1. Pressure Control
2. pH Control
3. Control Computer Interfacing of Thermal Conductivity Apparatus for Molten Polymers
4. Thermal Conductivity of Thermoplastics
5. The use of Polymer Resins for Water Treatment
6. Production of Energy from Waste Plastics
7. Swelling of polymer gels
8. Hydration of cross-linked alginate films

Honors and Awards

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| 2002 | DAAD Scholarship at University of Kaiserslautern, Germany |
| 1995 | DAAD Scholarship at Ulm University, Germany |
| 1986 | Best Technical Paper award from the Injection Molding Division of the Society of Plastics Engineers. |
| 1983 | Best Technical Paper award from the Injection Molding Division of the Society of Plastics Engineers. |
| 1980 - 1986 | University- of Jordan Scholarship. |

Industrial Training Courses

Advanced Process Control:

1. Process Control Techniques, Al-Khobar, Saudi Arabia, June 27 – July 1, 2009.
2. Advanced Process Control, SABIC, Saudi Arabia, June 6-10, 2009.
3. Advanced Process Control, SABIC, Saudi Arabia, March 7-11, 2009.
4. Advanced Process Control, SABIC, KSA, June 7-11, 2008.
5. Advanced Process Control, SABIC, KSA, March 1-5, 2008.
6. Process Control Techniques, Al-Khubar, KSA, Nov 3-7, 2007.
7. Advanced Process Control (Operations), SABIC, June 9-13, 2007.
8. Advanced Process Control, SABIC, March 10-14, 2007.
9. Process Control Techniques, SABIC, KSA, July 22-26, 2006.
10. Advanced Process Control, SABIC, June 24-28, 2006.
11. Distillation Control, SABIC, KSA, February, 2006
12. Advanced Control Techniques, SABIC, KSA, July 2004.
13. Advanced Process Control, SABIC, July 3-7, 2004

Basic Control and Instrumentation

1. Basic Instrumentation and Control, SABIC, Sept 1-5, 2007
2. Instrumentation, Measurements and Control, SABIC, August 4-8, 2007.
3. Basic Instrumentation and Control, SABIC, KSA, September 16-20, 2006
4. Basic Instrumentation and Control, SABIC, KSA, September 9-13, 2006.
5. Basic Instrumentation and Control, SABIC, KSA, July 15-19, 2006.
6. Basic Instrumentation and Control, SABIC, KSA, June 3-7, 2006.
7. Instrumentation and Control – Level I, SABIC, KSA, May, 2006.
8. Instrumentation and Control, SABIC, KSA, September, 2005
9. Basic Instrumentation and Control, SABIC, KSA, Sept., 2004
10. Instrumentation and Process Control Techniques, Dhahran, KSA, Aug, 2004.
11. Instrumentation and Process Control Techniques, 5-days Course, Dahran, Nov., 2000, offered by International Center for Management Development (ICMD), Al-Khobar, Saudi Arabia.
12. Basic Instrumentation and Control, SABIC, KSA, February, 1999.
13. Process Measurements and Control, Qatar General Petroleum Corporation (QGPC), Qatar, November 14-18, 1999.
14. Basic Instrumentation and Control, SABIC, KSA, April, 1997.
15. Instrumentation and Control and Instruments Maintenance, Admantic Limited, for Al-Bayraqa Petroleum Marketing Company, Libya, July 3-22, 1993.
16. Instrumentation and Control, SABIC, KSA, November, 1993.

Basic Chemical Engineering

1. Basic Heat Transfer & Heat Exchangers, SABIC, Saudi Arabia, December 5-9, 2009.
2. Basic Heat Transfer & Heat Exchangers, SABIC, Saudi Arabia, May 16-20, 2009.
3. Basic Heat Transfer and Heat Exchanger, SABIC, KSA, May 17-21, 2008.
4. Cooling Towers: Operation and Troubleshooting, Al-khubar, KSA, Feb 23-27, 2008.
5. Basic Distillation Operation and Troubleshooting, Al-Khubar, KSA, Sept 8-12, 2007.
6. Elements of Chemical Engineering Systems, SABIC, for August 5-9, 2006.
7. Principles of Polymer Science, SABIC, December, 2005
8. Principles of Polymer Science, SABIC, Riyadh, April, 2000.
9. Principles of Polymer Science, SABIC, March, 1998.
10. Polymer Reaction Engineering, SABIC, August, 1993.

Chemical Plants Troubleshooting

1. Process Plant Start-up and Commissioning , SABIC, Saudi Arabia, October 24-28, 2009.
2. Troubleshooting in Chemical Plants, SABIC, Saudi Arabia, October 10-14, 2009.
3. Process Plant Troubleshooting & Engineering Problem Solving, SABIC, Saudi Arabia, August 15-19, 2009.
4. Troubleshooting in Chemical Plants, SABIC, Saudi Arabia, July 4-8, 2009.
5. Troubleshooting in Chemical Plants, SABIC, Saudi Arabia, June 13-17, 2009.
6. Troubleshooting of Chemical Plants, SABIC, June 14-18, 2008.
7. Process Plant Troubleshooting and Engineering Problem Solving, SABIC, June 2-6,2007.
8. Troubleshooting of Chemical Plants, SABIC, May 5-9, 2007.
9. Troubleshooting of Chemical Plants, SABIC, June 17-21, 2006.

Valve Engineering

1. Valve Design, Operation, Maintenance and Troubleshooting, Global Center, Jordan, March 22 – April 23, 2009.
2. Valve Operation & Maintenance, SABIC, Saudi Arabia, April 11-14, 2009.

Hydraulic Systems

1. Hydraulic Systems Design and Troubleshooting, SABIC, KSA, August 12-16, 2006.
2. Hydraulic Systems: Fundamentals, Operation, and Troubleshooting, SABIC, KSA, September, 2005
3. Principles of Hydraulic Systems, Bahrain, March, 2005.
4. Pneumatic Control Systems, Bahrain, Dec., 2004.

Corrosion Engineering

1. Corrosion Monitoring and Control, JEA, Jordan, October, 2008.
2. Corrosion Engineering, SABIC, KSA, September, 2004

Pumps and Compressors

1. Centrifugal Pumps and Compressors, Al-Khubar, KSA, Oct 27- 31, 2007.
2. Rotating Equipment Reliability, Troubleshooting, and Root Cause Analysis, for SABIC, Khobar, KSA, February, 24-28, 2007.

Maintenance & Maintenance Management

1. Maintenance Management, Bahrain Association of Engineers, Bahrain, Nov. 23-26, 2008.
2. Maintenance Management, Jordanian Engineering Association, Jordan, Nov. 16-20, 2008.
3. Effective Maintenance Policy and Procedure Writing, Bahrain Society of Engineers, Training Center, Bahrain, July 27 - 30, 2008
4. Effective Maintenance Policy and Procedure Writing, Bahrain Society of Engineers, Training Center, Bahrain, June 29 – July 2nd, 2008.
5. Effective Maintenance, Planning and Scheduling, SABIC, July 21-25, 2007.
6. Effective Maintenance Scheduling and Planning, SABIC, KSA, February 17-21, 2007.

Human Resources & Management

1. Modern Management, Al-Khobar, KSA, August, 2009
2. Leading Knowledge Management Learning Strategies, Al-Khobar, KSA, August, 2009.
3. Effective Communications, ICMD, Al-Khobar, KSA, April 25-29, 2009.
4. Train the Trainers, ICMD, Al-Khobar, KSA, November 15-19, 2008.
5. Building High Performance Team and Leadership, Al-Khobar, KSA, July 19-23, 2008.
6. Effective Time Management, ICMD, Al-Khobar, KSA, July 12-16, 2008.
7. Health and Safety, Al-Khobar, KSA, Dec 8-12,2007.

Consultancy Experience

1. Scientific Consultant at The Jordanian Pharmaceutical Manufacturing Co., Naor. Jordan. Involved in two project:
Controlled drug release
Aerosols

2. Design of the Control System for Ethoxylation Processes, Nur Chemicals and Eng. Industries Co., Amman 11190, Jordan. (2002).
3. Pre-Feasibility study for manufacturing acrylic sheets in Jordan, in cooperation with Abu-Ghazaleh Consulting (AGCON) and submitted to the Industrial Development Bank (IDB) in Jordan (1998).
4. Study of the Sulpho-chemicals and Polymerization Industries in Jordan. Submitted to the Industrial Development Bank of Jordan (1996).
5. Equipment and material selection for Arab Company for Cable Polymers, Saudi Arabia. Visit to Buss. Basel. Switzerland (1995).
6. Feasibility study and design of the process for production of agricultural plastic containers for the Agricultural Containers Company, Jordan.
7. Feasibility study for the manufacture of soap from olive oil in southern Jordan.

Publications

1. Controlled Drug Release from EVA Polymer System, In Progress
2. Rheological Characterization of Alginate-Based Polymeric Gels, In Progress.
3. D. Abu Al-Nadi, D. Abu Fara, I. Rawabdeh, "Control of Rotational Molding Process using Adaptive Fuzzy Control", *Advances in Polymer Technology* 24,4 (2005) 266-277.
4. D. Abu Fara, I. Abu Reesh, "Effect of the Type of Input on the Periodic Operation of a Bioreactor with Input Multiplicities", *Mutah Lil-Buhuth wad-Dirasat, University of Mutah, Jordan*, 30, (2003)
5. D. Abu Fara, I. Rawabdeh, D. Abu Al-Nadi, "Neural Control for Cavity Pressure During Filling and Packing Stages of Thermoplastic Injection Molding Process", *J. of Injection Molding Technology*, 5 (2) (2001) 105-109.
6. M. Attarakih, D. Abu Fara, and S. Sayed, "Dynamic Modeling of Packed Bed Glycerol-Water Distillation Column", *Industrial and Engineering Chemistry Research*, 40 (2001) 4857-4865.
7. M. albarghouthi, D. Abu Fara, M. Saleem, T. El-Thaher, K. Matalka, and A. Badwan, "Immobilization of Antibodies on Alginate-Chitosan Beads", *International Journal of Pharmaceutics*, 206, 23 (2000).
8. D. Abu Fara, M. Kearns, and R. Crawford, "System Modelling for the Control of the Rotational Molding Process", *SPE ANTEC Technical Papers*, 45 (1999).
9. S. Al-Mousa, D. Abu Fara, and A. Badwan, "Evaluation of Parameters involved in the Preparation and Release of Drug Loaded in Crosslinked Matrices of Alginate, *Journal of Controlled Release*, 57 (1999) 223-232.
10. S. Btoush, N. Haimour, and D. Abu Fara, "Absorption of CO₂ into Ammonia Aqueous Solutions", *Dirassat Engineering Sciences*, 26, 66 (1999).
11. D. Abu Fara, "Recycling of Plastic Waste in Jordan", *First International Conference "Role of Engineering Towards Better Environment"*, Alexandria, Egypt, (1996).
12. N. Haimour and D. Abu Fara, "Extraction of Olive Oil from Olives Expression Residues", *Engineering and Technology*, 14(9), 72 (1995).

13. N. Abdal-Jalil, Y. Al-Assaf, and D. Abu Fara, "Computer Simulation of Adaptive Control for Thermoplastics Injection Molding Process", First National Conference on Electrical Engineering. Mut'a University (1993).
14. D. Abu Fara, M.R. Kamal, and W.I. Patterson, "Comprehensive Strategies for Sequential Closed-Loop Pressure Control Throughout the Injection Molding Cycle", SPE ANTEC Papers, 36, 239, (1990).
15. D. Abu Fara, W.I. Patterson, and M.R. Kamal, "Cavity Pressure Control in Injection Molding During Filling, Packing, and Holding", SPE ANTEC Technical Papers, 33, 221 (1987).
16. M.R. Kamal, W.I. Patterson, N. Conley, and D. Abu Fara, "Dynamics and Control of Pressure in Thermoplastics Injection Molding", Polym. Eng. Sci. 27, 1403 (1987).
17. D. Abu Fara, M.R. Kamal, and W.I. Patterson, "Evaluation of Simple Dynamic Models and Controllers for Hydraulic and Nozzle Pressure in Injection Molding", Polym. Eng. Sci., 25, 714 (1985).
18. M.R. Kamal, W.I. Patterson, D. Abu Fara, and A. Haber, "A Study of Injection Molding Dynamics", Polym. Eng. Sci. 24, 686 (1984).
19. M.R. Kamal, W.I. Patterson, and D. Abu Fara, "Simple Models of Hydraulic and Nozzle Pressures in Injection Molding". SPE RETEC, NJ (1983).
20. Haber, W.I. Patterson, M.R. Kamal, and D. Abu Fara, "A Microprocessor System for Control of Injection Molding". Mini-Symposium on Polymer Processing. NRCC, Montreal (1982).

Conferences Attended

1. Engineering Education, Bahrain, 2004
2. Jordanian Chemical Engineering Conference III, Amman, October, 2002.
3. 57 th Annual Technical Conference of Society of Plastics Engineers, NYC, May 2-6, 1999.
4. Second Mediterranean Exhibition of Technological Innovation, Naples, Italy, November 5 - 9, 1996.
5. Jordanian Chemical Engineering Conference II, Amman, September 2-4, 1996.
6. The Fifth International Conference of Chemical Engineering, Cairo, March 23 -25, 1996.
7. German - Egyptian Polymer Seminar, Cairo, September 9 - 10, 1995
8. Fourth Mediterranean School on Science and Technology of Advanced Polymer- Based Materials, Crete, Greece, June 5 - 9, 1995.
9. First Mediterranean Exhibition of Technological Innovation, Naples, Italy, November 5 - 12, 1994.
10. Jordanian Chemical Engineering Conference I, Amman, October 18-20, 1993.
11. 37 th Canadian Chemical Engineering Conference, Montreal, May 18-22. 1987.

12. 44 th Annual Technical Conference of Society of Plastics Engineers, Boston, April 28-May 1, 1986.
13. Polymer Processing Society, Second International Annual Meeting, Montreal, April 1-4. 1986.
14. 41st Annual Technical Conference of Society of Plastics Engineers, Chicago, May 1983.
15. Society of Plastics Engineers Regional Technical Conference (RETEC), Montreal, September 30^h - October 15^h 1982.
16. 2nd World Congress of Chemical Engineering, Montreal, October 4-9, 1981.
17. 38 th Annual Technical Conference of Society of Plastics Engineers, N.Y. May 5-8, 1980.

Administrative Duties:

1. Member of the consulting committee for engineering education, Jordan Engineers Association, Amman, Jordan
2. ABET Accreditation Committee, Chemical Engineering Dept, University of Jordan.
3. ABET Accreditation Committee, Chemical Engineering Dept, University of Bahrain.
4. Academic Committee, Chemical Engineering Dept., University of Bahrain.
5. Labs Maintenance Committee, Chemical Engineering Dept, University of Bahrain.
6. Research Committee in the Faculty of Engineering and Technology, University of Jordan.
7. Graduate Studies and Research in the Department of Chemical Engineering, University of Jordan.
8. Faculty of Engineering Graduates Committee.
9. Representative of the Chemical Engineering Department in the Faculty Council for two years.
10. Representative of the Faculty of Engineering in the University Council for the year 93/94.
11. Several Committees on the Specification of the Plastics Products, Ministry of Industry, Jordan.

Professional Affiliations

1. American Institute of Chemical Engineers
2. Society of Plastics Engineers in North America (SPE).
3. Jordanian Engineers Association.
4. Mediterranean Network on Science and Technology of Advanced Polymer - Based Materials.

References

1. Dr. A.A. Badwan, General Manager, The Jordanian Pharmaceutical Manufacturing Co., P.O.Box 94, Naor 11710, Jordan, Email: jpm@go.com.jo
Fax: 962 6 572 7641, Tel: 962 6 572 7207.
2. Professor Nader El Bastaki, Chairman, Department of chemical Engineering, College of Engineering, Uninersity of Bahrain, Tel., 17 87 66 22.
3. Professor I. Abu Reesh, Chairman. Chem. Eng. Dept., University of Jordan, Amman 11942 Jordan, Fax: 962 6 535 5588. Tel: 962 6 535 5000 - 2794.
4. Professor M.R. Kamal, McGill University, Chem. Eng. Dept., 3480 University St., Montreal, PQ, H3A 2A7, Canada, Fax: (514) 398 6678.