

# Nabeel Zahran Hamoud Al-Rawahi

ASSOCIATE PROFESSOR, MECHANICAL AND INDUSTRIAL ENGINEERING DEPARTMENT

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## EDUCATION

- Ph. D.** Mechanical Engineering, University of Michigan, Ann Arbor, USA, [ 1998 – 2002 ]  
**Title of the Thesis:** Numerical Simulation of Dendritic Solidification with Convection.
- M. Sc.** Mechanical Engineering, University of Michigan, Ann Arbor, USA, [ 1995 – 1997 ]
- B. Eng.** Mechanical Engineering, Sultan Qaboos University, Muscat, Sultanate of Oman, [1989 -1994]
- Secondary School:** Jabir Bin Zaid Secondary School, AlWataya, Muscat, Oman [ 1986 – 1989 ]

## ACADEMIC RECORDS WITH SQU

**Associate Professor:** Department of Mechanical Engineering and Industrial Engineering, 2012- present

**Head of Department:** Department of Mechanical Engineering and Industrial Engineering, 2011-2017

**Assistant Professor:** Department of Mechanical Engineering and Industrial Engineering, 2002-2012

**Lecturer:** Department of Mechanical and Industrial Engineering, 1997-2002

**Demonstrator:** Department of Mechanical Engineering, 1994-1997

## OTHER RELATED EXPERIENCE

### PRINCIPAL PUBLICATIONS (SELECTED)

#### JOURNAL ARTICLES

1. **Al-Rawahi, N.,** Zurigat, Y.H. and Al-Azri, N. (2016), “*Investigating different diffuse solar radiation models to analyse solar radiation on inclined surfaces in Oman*” *International Journal of Sustainable Energy*, 35 (8), pp. 757-773. DOI: 10.1080/14786451.2014.950961
2. Husain, A. Ariz, M., **Al-Rawahi, N.,** Ansari, M. (2016) “*Thermal performance analysis of a hybrid micro-channel,-pillar and-jet impingement heat sink*” *Applied Thermal Engineering*, 102, pp. 989-1000.
3. Haji, AH., **Al-Rawahi, N.,** Vakili-Nezhaad, G. (2016) ”*Investigation on the Effectiveness of an Innovative Airfoil-Type Degasser*” *Separation Science and Technology*, 51 (4), pp. 701-710.
4. Husain, A., Al-Azri, NA., **Al-Rawahi, NZH.,** Samad, A. (2015) “*Comparative Performance Analysis of Microjet Impingement Cooling Models with Different Spent-Flow Schemes*” *Journal of Thermophysics and Heat Transfer*, 30 (2), pp. 446-472. DOI: 10.2514/1.T4577
5. Haji,A.H., **Al-Rawahi, N.,** Vakili-Nezhaad, G. (2014) “*Variation of Airfoil Pressure Profile Due to Confined Air Streams: Application in Gas-Oil Separators*” *International Journal of Mechanical and Mechatronics Engineering*, 12(1)
6. Al-Azri, N., Zurigat, Y. H., and **Al-Rawahi, N.,** (2013) “*Development of bioclimatic chart for passive building design*” *International Journal of Sustainable Energy*, 32 (6), pp. 713-723 , DOI: 10.1080/14786451.2013.813026.
7. Gholamreza Vakili-Nezhaad, **Nabeel Al-Rawahi,** G. Ali Mansoori, Amin Fatemi (2013) “*Effect of Fluid Viscosity on Asphaltene Deposition Rate during Turbulent Flow in Oil Wells*”, *American Journal of Chemical Engineering*. Vol. 1, No. 2, pp. 45-49. DOI: 10.11648/j.ajche.20130102.13
8. Al-Azri, N., Zurigat, Y. H., and **Al-Rawahi, N.** (2013) “*Selection and assessment of passive cooling techniques for residential buildings in Oman using a bioclimatic approach*” *The Journal of Engineering Research* 10(2):53-65.
9. **Al-Rawahi, N.,** M. Meribout, A. Al-Naamany, A. Al-Bimani, A. Meribout, (2012) “*A Neural Network Algorithm for Density Measurement of Multiphase Flow*”, *Multiphase Science and Technology*, November, 24 (2), pp 89–103.
10. **Al-Rawahi, N.,** Zurigat, Y.H. and Al-Azri, N. (2011), “*Prediction of hourly solar radiation on horizontal and inclined surfaces for Muscat, Oman*”, *The Journal of Engineering Research*, vol. 8, no. 2, pp. 19-31.
11. M. Meribout, **N. Al-Rawahi,** A. Al-Naamany, A. Al-Bimani, K. Al-Busaidi, A. Meribout, (2010) “*A Multi-sensor Intelligent Device for real-time Multi Phase Flow Metering in Oil fields*”, *IEEE Transaction on Instrumentation and Measurement*, Vol. 59 (6), June, pp. 1507-1519.
12. M. Meribout, **N. Al-Rawahi,** A. Al-Naamany, A. Al-Bimani, K. Al-Busaidi, A. Meribout, (2010) “*Integration of impedance measurements with acoustic measurements for accurate two phase flow metering in case of high water-cut*” *Flow Measurement and Instrumentation*, Vol. 21 (1), March, pp. 8-19.

13. Meribout, M., **Al-Rawahi, N. Z.**, Al-Naamany, A. M., Al-Bimani, A., Al-Busaidi, K., and Meribout, A., (2009) “*An accurate Machine for Real-Time Two-Phase Flowmetering in Laboratory-Scale Flow Loop*” IEEE Transaction on Instrumentation and Measurement, August, 58(8), 2686-2696.
14. Abdo J. and **Al-Rawahi, N.**, (2008) “*Determination of the Effect of Humidity and Relative Speed on the Coefficient of Friction Using Response Surface Methodology*” Surface and Interface Analysis, Vol. 40, pp889-892
15. J. A. Abdo and **N. Al-Rawahi**, “*Identification of Friction/Vibration Interaction between Solids*”, The Journal of Engineering Research, Vol. 5, No. 5, January 2008.
16. H. A. Al-Ismaily, A. S. Al-Alawi, **N. Al-Rawahi**, “*Viability of Hybrid Wind-Diesel Power Generation in Fossil Fuel Rich Countries: A Case Study of Masirah Island, Sultanate of Oman*” ISESCO Science and Technology Vision, vol. 2, no. 1, pp. 49-52, 2006.
17. G. Tryggvason, A. Esmaeeli, and **N. Al-Rawahi**, “Direct numerical simulations of flows with phase change” Computers and Structures Journal, **83**, 445-453 (2005).
18. **Nabeel Al-Rawahi** and Gretar Tryggvason, “*Numerical simulation of dendritic solidification with convection: three-dimensional flow*” Journal of Computational Physics **194**, 677 – 696 (2004)
19. G. Tryggvason, B. Bunner, A. Esmaeeli, and **N. Al-Rawahi**, “*Computations of multiphase Flows*” Advances in Applied Mechanics, **39**, 81-119 (2003).
20. **N. Al-Rawahi** and G. Tryggvason, “*Numerical simulation of dendritic solidification with convection: two-dimensional geometry*” Journal of Computational Physics **180**, 471-496 (2002).
21. G. Tryggvason, B. Bunner, A. Esmaeeli, D. Juric, **N. Al-Rawahi**, W. Tauber, J. Han, S. Nas and Y.-J. Jan, “*A front-tracking method for the computations of multiphase flow*” Journal of Computational Physics **169**, 708-759 (2001).

#### BOOK CHAPTERS

1. Sulaiman Al Obaidani, Mohammed Al-Abri, and **Nabeel Al-Rawahi** “Achieving the Zero-Liquid-Discharge Target Using the Integrated Membrane System for Seawater Desalination” Recent Progress in Desalination, Environmental and Marine Outfall Systems, 2015, Springer, ISBN 978-3-319-19122-5.
2. **Nabeel Al-Rawahi**, Gholamreza Vakili-Nezhaad, Ibrahim Ashour, Amin Fatemi “A New Correlation for Prediction of Viscosities of Omani Fahud-Field Crude Oils” Advances in Modelling of Fluid Dynamics, 2012, INTECH, ISBN 978-953-51-0834-4
3. Gholamreza Vakili-Nezhaad, Ibrahim Ashour, **Nabeel Al-Rawahi** and Seyed Amin Fatemi “Applications of Equations of State in the Oil and Gas Industry” Thermodynamics / Book 2, 2011, INTECH, ISBN 978-953-307-978-3.

#### BOOKS

1. Jamil Abdo, **Nabil Al-Rawahi**, Tasneem Pervez, Sayyad Qamar, Ibrahim Garbie (Editors), Ashraf Shikdar (Managing Editor), T.S. Srivatsan (International Editor), “Applied Mechanics, Materials, and Manufacturing”, Vol. 1: Applied Mechanics, ISSN: 2220-3508.
2. Sayyad Qamar, Ibrahim Garbie, Jamil Abdo, **Nabil Al-Rawahi**, Tasneem Pervez (Editors), Ashraf Shikdar (Managing Editor), T.S. Srivatsan (International Editor) “Applied Mechanics, Materials, and Manufacturing”, Vol. 2: Materials and Manufacturing, ISSN: 2220-3508.

#### CONFERENCE PROCEEDINGS ARTICLES

1. Al-Azri, N., Zurigat, Y., **Al-Rawahi, N.** “*Bioclimatic Charts for Oman Using Dry Bulb and Dew Point Temperatures*” International Conference on Applied Mechanics and Industrial Systems (ICAMIS-Oman-2016), 6-8 December 2016, Muscat, Oman.
2. Zurigat, Y., Al-Azri, N., **Al-Rawahi, N.** “*Bioclimatic Chart and Comfort Zone Potential in Buildings Cooling in Sharjah City, UAE*” International Conference on Applied Mechanics and Industrial Systems (ICAMIS-Oman-2016), 6-8 December 2016, Muscat, Oman.
3. Al-Shuaili, M., Al-Azri, N., **Al-Rawahi, N.** “*Comparison of Ground and Satellite Weather Parameters Data for Muscat Oman*” International Conference on Applied Mechanics and Industrial Systems (ICAMIS-Oman-2016), 6-8 December 2016, Muscat, Oman.
4. Husain, A., Ariz, M., Al-Azri, N., **Al-Rawahi, N.**, Ansari, M. “*Thermal Performance Analysis of Hybrid Jet Impingement/Microchannel Cooling for Concentrated Photovoltaic (CPV) Cells*” ASME 2016 14th International Conference on Nanochannels, Microchannels, and Minichannels, Washington, DC, USA, July 10–14, 2016. ISBN: 978-0-7918-5034-3
5. Qamar, S.Z., Kamanathan, A., Al-Rawahi N.Z. “*Teaching product design in line with Bloom's taxonomy and ABET student outcomes*” Global Engineering Education Conference (EDUCON), IEEE, Abu Dhabi, UAE, 11-13 April, 2016.
6. Al-Azri, N., Al-Rawahi, N., Khodaei, A., Husain, A. “*Linear Regression Models for the Thermodynamic Properties of Working Fluids in Waste Heat Recovery*” 4<sup>th</sup> International Conference on Renewable Energy: Generation and Applications (ICREGA 2016), Belfort – France 08-10 February 2016.
7. Husain, A., Ariz, M., Al-Azri, N., Al-Rawahi, N., Ansari, M. “*Thermal Performance Analysis of Hybrid Jet Impingement/Microchannel Cooling for Concentrated Photovoltaic (CPV) Cells*” ASME 14<sup>th</sup>

- International Conference on Nanochannels, Microchannels, and Minichannels, July 10–14, 2016, Washington, DC, USA.
8. N., **Al-Rawahi, N.**, Myint, M.T., Dutta, J. “*Experimental Study on Enhancement of Heat Transfer Using Nanoparticles Based Fluids*” 25th Canadian Congress of Applied Mechanics (CANCAM 2015), London, Ontario, Canada, May 31 – June 4, 2015.( *Proceedings*: ISBN 978-0-7714-3083-1).
  9. Al-Kindi, N., **Al-Rawahi, N.**, Dutta, J., Myint, M.T. “Heat Transfer Efficiency using Zinc Oxide (ZnO) & Aluminum Oxide (Al<sub>2</sub>O<sub>3</sub>) Nanoparticles Based Fluid” The Annual Conference on Engineering and Technology (ACEAT 2014) ,Osaka, Japan, October 15-17, 2014.
  10. **Al-Rawahi N.**, Zurigat Y., Al-Azri N. “Analysis of Solar Radiation on Horizontal and Inclined Surfaces for Six Different Locations in Oman”, 24<sup>th</sup> Canadian Congress of Applied Mechanics (CANCAM '13), Saskatoon, Saskatchewan, Canada, June 2- 6, 2013.
  11. Al-Azri, N., Zurigat Y., **Al-Rawahi, N.** “Development of bioclimatic chart for passive building design in Muscat-Oman” *proceedings of the* International Conference on Renewable Energies and Power Quality (ICREPQ'12), Santiago de Compostela, Spain, March 28-30, 2012.
  12. **Al-Rawahi N.**, Zurigat Y., Al-Azri N. “Applications of Different Models for the prediction of hourly solar radiation on horizontal and inclined surfaces”, 23<sup>rd</sup> Canadian Congress of Applied Mechanics (CANCAM '11), Vancouver, Canada, June 5- 9, 2011.
  13. **Al-Rawahi N.**, Zurigat Y., Al-Azri N. “Prediction of Hourly Solar Radiation on Horizontal and Inclined Surfaces Using Daily Averaged Global Radiation Data”, International Conference on Applied Mechanics, Materials, and Manufacturing, December 13-15, 2010, Muscat, Oman
  14. Meribout, M., **Al-Rawahi, N.**, Al-Naamany, A., Al-Bimani, A., Al-Busaidi, K., Meribout, A. “A non-radioactive flow meter using a new hierarchical neural network”, 14<sup>th</sup> International Conference on Multiphase Production Technology , Cannes, France: 17 – 19 June 2009, pp. 65-78.
  15. **Al-Rawahi, N. Z.**, Meribout, M., Al-Naamany, A. M., Al-Bemani, A., and Meribout, A. “A small Multi-Phase Flow Loop used in Training a Neural Network Algorithm for Density Measurement”, 22<sup>nd</sup> Canadian Congress of Applied Mechanics (CANCAM '09), Halifax, Canada, May 31 – June 4, 2009.
  16. Nabeel Al-Rawahi, “Designing a Multi-Phase Flow Loop”, International Conference on Computational and Experimental Engineering and Sciences (ICCES,09), Phuket, Thailand, 8-11 April 2009.
  17. Abdo J. and **Al-Rawahi, N.**, “Response Surface Method for Characterization of Coefficient of Friction in Dry Contact” 12th European Conference on Applications of Surface and Interface Analysis (ECASIA), Sep. 9-14, 2007, Brussels, Flagey, Belgium.
  18. Abdo J. and **Al-Rawahi, N.**, “Elastic–plastic Contact of Rough Surfaces Based on Ultimate-stress Asperity Concept “ 12<sup>th</sup> European Conference on Applications of Surface and Interface Analysis (ECASIA), Sep. 9-14, 2007, Brussels, Flagey, Belgium
  19. **Nabeel Al-Rawahi** “Numerical Simulation of the Enhancement of Heat Transfer in A Duct Using an Oscillating Cylinder”, 21<sup>st</sup> Canadian Congress of Applied Mechanics(CANCAM '07), Toronto, Canada, June 2- 7, 2007.
  20. **Nabeel Al-Rawahi** and Gretar Tryggvason, “Numerical Simulation of the Effect of Convection on Dendritic Solidification”, International Conference on Thermal Engineering: Theory and Applications, Paper No. DD2-05, Beirut, Lebanon, May 31- June 4, 2004.
  21. **Nabeel Al-Rawahi** and Gretar Tryggvason, “The Effect of Fluid Flow on Dendritic Solidification” 4<sup>th</sup> International Conference on Multiphase Flow (ICMF-2001), Paper No. 408, New Orleans, LA, USA, May 27 - June 1, 2001.
  22. **Nabeel Al-Rawahi** and Gretar Tryggvason, “A Numerical Method for Flow and Solidification” Proceedings of the 2000 ASME Fluids Engineering Division Summer Meeting (FEDSM2000), Paper No.FEDSM11279, June 11-15, 2000, Boston, Massachusetts.

#### TECHNICAL REPORTS

1. **N. Al-Rawahi**, M. Meribout, A. Al-Bemani, A. Al-Namaany & M. Habli, “Final report on the Development of an Intelligent Multi-Sensor Multi-Phase Flow Meter”, (PDO Contract # 2002-48), 2008, (PDO, Oman).
2. **N. Al-Rawahi**, M. Meribout, A. Al-Bemani, A. Al-Namaany & M. Habli, “Second report on the Development of an Intelligent Multi-Sensor Multi-Phase Flow Meter”, (PDO Contract # 2002-48), 2006, (PDO, Oman).
3. M. Habli, A. Al-Bemani, A. Al-Namaany, B. Jubran, M. Meribout, **N. Al-Rawahi**, & Y. Zurigat., “First report on the Development of an Intelligent Multi-Sensor Multi-Phase Flow Meter”, (PDO Contract # 2002-48), 2004, (PDO, Oman).

#### SHORT COURSES AND WORKSHOPS

1. Organizer: “Effective Teaching and Learning in Engineering: Framework, Principles and Strategies”, Sultan Qaboos University, Muscat, Oman, December 6-8, 2016
2. Short Course co-instructor, “Rotary Equipments”, part of AlGhubrah Power & Desalination Company SAOC In-House Training Program for GPDC Employees, 12 – 14 June 2008.

3. Short Course instructor, “Mechanical Engineering”, part of AlGhubrah Power & Desalination Company SAOC In-House Training Program for GPDC Employees, 20 – 22 July 2008.

#### FUNDED PROJECTS

1. **N. Al-Rawahi (PI)**, Ibrahim Ashour, and Gholam Vakili “ Investigating the effectiveness of Implementing a new design of crude oil degasser” (PDO Contract # 2009-111), 2009-on going, (PDO, Oman), 189,600 R.O.
2. **N. Al-Rawahi (PI)**, “ Multiphase Flow Loop Auditing by NEL: Phase I” (PDO Contract # 2009-109), 2009, (PDO, Oman), 6,800 R.O.
3. **N. Al-Rawahi (PI)**, “Experimental Study of Conical Hydro-Cyclone for Treatment of Produced Water”, (SQU, Internal Grant, IG/ENG/MIED/11/06), started 2011, 3,000 R.O.
4. **N. Al-Rawahi (PI)**, “An Experimental and Computational Study of Different Types of Cyclone Liquid-Gas Separators”, (SQU, Internal Grant, IG/ENG/MIED/08/03), 2007-2009, 4,339 R.O.
5. M. Habli (PI of phase I), **N. Al-Rawahi (PI of phase II)**, A. Al-Bemani, A. Al-Namaany, B. Jubran, M. Meribout, & Y. Zurigat., “The Development of an Intelligent Multi-Sensor Multi-Phase Flow Meter”, (PDO Contract # 2002-48), 2002-2008, (PDO, Oman), 225,000 R.O.

#### **PROFESSIONAL AND SCIENTIFIC SOCIETIES**

- American Society for Engineering Education (ASEE), 2015- present.
- American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), 2012-2015
- Society of Automotive Engineering (SAE), 2002 – present.
- American Society of Mechanical Engineering (ASME), 1995 – present.

#### **INSTITUTIONAL AND PROFESSIONAL SERVICES**

##### Professional Service

- Campus Representative of the American Society for Engineering Education (ASEE) in Sultan Qaboos University, 2015- present.
- Member, Joint Committee of Sultan Qaboos University and the Ministry of Commerce and Industry, (2010-present).
- Focal Point of the Renewable Energy Promotion Mechanism (REPM) in the Sultanate of Oman, which is a mechanism formed by the United Nations’ Economics and Social Commission for Western Asia, (2002-present)
- Member, Advisory Council for Al-Hail Desalination Plant, (2002-2005).
- Coordinator, Desalination group in the Water Research Center, (2003-present)
- Member, organizing committee for the university’s participation in the “16th Middle East Oil & Gas Show and Conference” (MEOS 2009).

##### Institutional Service

- Chair, Organizing committee, 1<sup>st</sup> Exhibition “Towards Industrial Innovative Solutions”, AlRusayl Industrial Estate, 22<sup>nd</sup> April 2014.
- Co-Chair, Mechatronics Program Steering committee, 2014-present.
- Chair, Mechatronics Program Steering committee, 2011-2014.
- Member, High Performance Computing Facility Steering Committee, SQU. (2009 – present)
- Chair, Fund raising committee for the International Conference for Applied Mechanics, Materials, and Manufacturing, December 13-15,2010.
- Chair, Website committee for the International Conference for Applied Mechanics, Materials, and Manufacturing, December 13-15,2010.
- Member, organizing committee for the International Conference for Applied Mechanics, Materials, and Manufacturing, December 13-15,2010.
- Supervisor and coordinator of the SQU participation in the International Submarine Race (ISR) project (2008 – present).
- Member in different Departmental Committees, SQU, Oman, (2002-Present) (Below are only samples).
  - Chair, College of Engineering Publication/Web Committee, SQU, Oman, (2008-2009).
  - Chair, Department Publication/Web Committee, SQU, Oman, (2008-2009).
  - Member, College of Engineering Board, SQU, Oman (2003/04 & 2008/09)
  - Member, College of Engineering Publication/Web Committee, SQU, Oman, (2006-2007).
  - Member, Department Publication/Web Committee, SQU, Oman, (2006-2007).
  - Member, Department Curriculum & Accreditation Committee/ABET, SQU, Oman, (2004-2006).
  - Member, College of Engineering Societies Committees, SQU, Oman (2004-2006).
  - Member, College of Engineering Faculty-Students Liaison Committee, SQU, Oman (2004-2006).
  - Member, College of Engineering Safety Committee, SQU, Oman (2003/04)

- Chair, Publicity and Publication committee for the Renewable Energy Development in Oman Forum'09 (REDOF'09), November 22-23, 2009.
- Advisor, Mechanical Engineering Students Society (ASME-chapter), SQU, Oman (2004-2006).

## **PROFESSIONAL DEVELOPMENT ACTIVITIES**

### WORKSHOPS

- “Critical Thinking Skills for the 21st Century”, Prof. Nikos J. Mourtos, Sultan Qaboos University, Oman, 16-17 May 2017.
- “Preparing Effective Practitioners and Responsible Citizens for the 21st Century”, Prof. Nikos J. Mourtos, Sultan Qaboos University, Oman, 18 May 2017.
- “Creating Significant Learning Experiences”, Dr. Stewart Ross, Sultan Qaboos University, Oman, 14<sup>th</sup> February 2017.
- “Introduction to CDIO Initiative”, Dr. Juha Kontio, Sultan Qaboos University, Oman, 17-19 May 2016.
- “Preparing Engineers for a Globalized Economy: How to Teach Engineering Students Process Skills”, Prof. Nikos J. Mourtos, Sultan Qaboos University, Oman, 26-28 May 2015.
- “2014 World Engineering Education Forum, WEEF2014”, Dubai, UAE, 3<sup>rd</sup> - 6<sup>th</sup> December 2014.
- “Policy and Procedures Development and Management”, Sultan Qaboos University, Oman, 17 - 19 November 2013.
- “ABET Symposium” and “ABET Assessment Workshop”, St. Louis, Missouri, USA, 19-21 April 2012.
- “Program Assessment Workshop”, Sultan Qaboos University, Oman, 14 - 15 February 2012.
- “Global Education Forum & Gulf Educational Supplies & Solutions 2012”, Dubai, 28 February-1 March 2012.
- “Multiphase Flow Short course and Workshop”, Dresden, Germany, 24-26 June 2008.
- “7th South East Asia Hydrocarbon Flow Measurement Workshop”, Malaysia, 5-7 March 2008.
- “Regional Workshop on Nano Technology”, Sultan Qaboos University, Oman, 13 - 14 January 2008.
- Chair of the Organization committee and Coordinator of the “National workshop on Renewable energy and its applications in the Sultanate of Oman”, Sultan Qaboos University, Oman, November 2006.
- “Using WebCT”, Workshop, Sultan Qaboos University, Sultanate of Oman, April 2004.
- ABET Self Study Workshop, Presentation on "Program Outcomes and Assessment", April 2003.
- Water Re-Use Promotion Center (WRPC), three weeks training about Reverse Osmosis Desalination Plants, Tokyo, Japan, February 2003.

### SHORT COURSES

- “PMP.5: Project Management Professional”, Muscat, Oman, Sultan Qaboos University and Al-Alawi Training Center, 16-27 February 2014.
- “The Fundamentals of Project Management”, Abu Dhabi, UAE, by Spearhead Training, 6 - 8 October 2013.
- “Assertiveness Skills”, Dubai, UAE, by Spearhead Training, 18 October 2012.
- “Strategic Thinking and Planning”, Abu Dhabi, UAE, by Spearhead Training, 20-21 June 2012.
- “Developing Management Skills” Abu Dhabi, UAE, by Spearhead Training, 10-14 June 2012.
- “Academic Leadership Development in Higher Education”, Dubai, UAE, by the University of Greenwich, 22-26 January, 2012.
- “Oil-in-Produced Water Training Course”, Malaysia, 3 March 2008.
- “Multiphase Metering Training Course” Malaysia, 4 March 2008.
- “Thermal Desalination: Process, Principles, Design and Application”, Sultan Qaboos University, Sultanate of Oman, September 2003.
- “Occupational Safety & Health in the Workplace”, Sultan Qaboos University, Sultanate of Oman, May 2003.