

# CURRICULUM VITAE

## PERSONAL INFORMATION

**Name** Sulaiman Khalfan Said Al-Obaidani  
**Date of Birth** 26<sup>th</sup> May, 1975  
**Specialization** Mechanical Engineering  
**Contact Information** Mechanical and Industrial Engineering Department  
College of Engineering, Sultan Qaboos University  
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## EDUCATION AND EMPLOYMENT INFORMATION

### EDUCATION

**PhD 2009**; Chemical Engineering and Materials, Chemical Engineering and Materials Department. University of Calabria, Italy

*Dissertation Title:*

“ An Integrated Membrane Operation in Desalination of Sea and Brackish water”.

**MS 2004**; Mechanical Engineering, Mechanical and Industrial Engineering Department, Sultan Qaboos University, Oman

*Dissertation Title:*

“Chemical Cleaning of Micro-Filtration Membranes Used for Pretreatment of Oil Contaminated Seawater”.

**BE 1999**; Mechanical Engineering, Mechanical and Industrial Engineering Department, Sultan Qaboos University, Oman

Top student of my batch with **GPA of 3.63 out of 4.**

### TEACHING/RESEARCH/TECHNICAL EXPERIENCE

#### EMPLOYMENT INFORMATION

##### **Assistant Professor**

2019 to date; Mechanical & Industrial Engineering Department, Sultan Qaboos University (SQU), Oman

**Duties:**

- Teaching of Mechanical and general engineering courses at undergraduate and graduate levels with all academic related duties, i.e., material preparation, lecturing, exams preparation, grading, etc.
- Active researcher on both basic and applied research topics.
- Assisting Master and PhD. Students during their research work.

##### **Associate Researcher (A)**

2012 to 2019; Mechanical & Industrial Engineering Department, Sultan Qaboos University (SQU), Oman

**Duties:**

- Working as a principal investigator for a recently assigned His Majesty Project entitled “Mitigation of polluted brine well-recharge using solar-powered zero-liquid discharge brackish water desalination in Oman”.
- Completed an internal research grant for doing the research entitled “Use of NF membranes for water treatment”.

- Teaching in the department of Mechanical and Industrial Engineering and assisting Master and PhD. Students during their research work.
- A member in the Technical Committee of the Chair in Nanotechnology for Desalination and water treatment.
- Participated in the establishment of Nanotechnology Centre in Sultan Qaboos University under the directive of Vice-Chancellor, SQU.

### **Associate Researcher (B)**

2009 to 2012; Mechanical & Industrial Engineering Department, Sultan Qaboos University (SQU), Oman

#### **Duties:**

- Teaching undergraduate courses in the Mechanical and Industrial Engineering Department
- Working in research areas related to water treatment and desalination.
- Undertaking the repairing procedure of the Al-Hail RO plant which was destroyed by the cyclone.

### **Postgraduate Student**

2005 to 2009; Chemical Engineering and Materials Department. University of Calabria, Italy

### **Engineer**

2000 to 2005; Mechanical & Industrial Engineering Department, Sultan Qaboos University (SQU), Oman

#### **Duties:**

- The team leader in a new RO Desalination project to supply water for industrial and public use in Oman through construction, long term testing and evaluation of a model plant taking into consideration possible oil contamination, high salinity and other characteristics of seawater of the Omani coast. This project was in collaboration with the Water Re-use Promotion Centre (Japan).

## **SCHOLARLY ACHIEVEMENTS**

### **REFEREED JOURNAL PAPERS**

1. M. Al-Bulushia,b, M. Al-Hinaic, S. Al-Obaidanid, S. Dobrestove, E. Nxumalog, M. Al-Abri, Antifouling enhancement of polyethersulfone membranes incorporated with silver nanoparticles for bovine serum albumin and humic acid removal, *Desalination and Water Treatment* 243:123-142 (2021).
2. M. Al-Salmi, M. Laqbaqbi, **S. Al-Obaidani**, R. S. Al-Maamari, M. Khayet, M. Al-Abri, Application of membrane distillation for the treatment of oil field produced water, *Desalination*, vol. 494, (2020).
3. E. Curcio., X. Ji, G. DiProfio, **S. Al-Obaidani**, E. Fontananova, E. Drioli. Membrane distillation operated at high seawater concentration factors: Role of the membrane on CaCO<sub>3</sub> scaling in presence of humic acid. *Journal of Membrane Science*, vol. 346, (2010) 263-269
4. Ji X, E. Curcio., **S. Al-Obaidani**., G. DiProfio, E. Fontananova, E. Drioli. Membrane distillation-crystallization of seawater reverse osmosis brines. *Separation and Purification Technology*, vol. 71 (1), (2010) 78-82
5. **S. Al-Obaidani**, E. Curcio and E. Drioli “The Role of Membrane Distillation/Crystallization Technologies in the Integrated Membrane System for

- Seawater Desalination". Desalination and Water Treatment Vol. 10(1-3), (2009) 210-219
6. **S. Al-Obaidani**, E. Curcio, G. DiProfio, F. Macedonio, H. Al-Hinai and E. Drioli, "Potential of Membrane Distillation in Seawater Desalination: Thermal Efficiency, Sensitivity Study and Cost Estimation", Journal of Membrane Science 323(1) (2008) 85.
  7. Curcio E. , **S. Al-Obaidani** , Macedonio F. , Di Profio G. , Gualtieri S. , Drioli E. , "Advanced membrane systems for seawater desalination. Kinetics of salts crystallization from RO brines promoted by polymeric membranes". Korean Membrane Journal 17 (2) (2007) 93.
  8. **S. Al-Obeidani**, H. Al-Hinai, M. Goosen, S. Sablani, Y. Taniguchi and H. Okamura, "Cleaning of Membranes Used for Treatment of Oil Contaminated Water: A Critical Review". Desalination, 2006.

### **BOOK CHAPTER**

1. **S. Al Obaidani**, Mohammed Al-Abri and Nabeel Al-Rawahi, "Achieving the Zero-Liquid-Discharge Target Using the Integrated Membrane System for Seawater Desalination" Book chapter in Recent Progress in Desalination, Environmental and Marine Outfall Systems, (2015), 53-72

### **REFEREED INTERNATIONAL CONFERENCES**

- 1- **S. Al-Obaidani**, Mohammed Al-Abri, and Nabeel Al-Rawahi "Achieving the Zero-Liquid-Discharge Target Using the Integrated Membrane System for Seawater Desalination", Proceedings of the International Conference on "DESALINATION, ENVIRONMENT AND MARINE OUTFALL SYSTEMS" (ICDEMOS2014), Muscat, Sultanate of Oman from 13 to 16 of April, 2014, 112-116.
- 2- **S. Al-Obaidani**, E. Curcio and E. Drioli "The Role of Membrane Distillation/Crystallization Technologies in the Integrated Membrane System for Seawater Desalination". EUROMED 2008: Desalination Cooperation among Mediterranean Countries of Europe and the MENA Region. Dead Sea (Jordan) November 9-13 (2008).
- 3- **S. Al-Obaidani**, E. Curcio and E. Drioli "Approaching the Zero-Liquid-Discharge (ZLD) Goal by Integrated Membrane System for Seawater Desalination: Exergy analysis and Economical Considerations". Proceedings 5<sup>th</sup> Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries. Cetraro (Italy) May 24-29 (2008).
- 4- Curcio E. , **S. Al-Obaidani** , Macedonio F. , Di Profio G. , Drioli E. , " Membrane Distillation as a Viable Option for Seawater Desalination". Proceedings "Asian Conference on Desalination & Water Reuse 2007". Qingdao (China) July 4-6 (2007) 147.
- 5- Curcio E. , Drioli E. , Di Profio G. , **S. Al-Obaidani** , Macedonio F. , " Advanced Membrane Systems for Seawater Desalination". Proceedings "5<sup>th</sup> Italy-Korea Workshop

on “Membranes and Membrane Processes for Clean Environment”. Giardini Naxos (Italy) September 29-30 (2006) 46.

- 6- **S. Al-Obaidani**, “Modeling and Simulation of Membrane Distillation for Seawater Desalination”. Network Young Membrains, 8<sup>th</sup> meeting. Rende (Italy) September 21-23 (2006).
- 7- **S. Al-Obeidani**, H. Al-Bahlani, S. Al-Mugheiry, N. Al-Azizi, H. Al-Hinai, T. Goto, Y. Taniguchi and H. Okamura, “Al-Hail Desalination Plant: A State-of-Art in RO Desalination” International Seminar on Experiences and Practices of Water and Wastewater Technology, Muscat Sultanate of Oman, 5-7 Oct. 2004.
- 8- M. F. Goosen, S. S. Sablani, H. Al-Hinai, **S. Al-Obeidani**, R. Al-Belushi and D. Jackson, “ Fouling of Reverse Osmosis and Ultrafiltration Membranes : A Critical Review” Separation Science and Technology, revised paper submitted Feb 2004.
- 9- T. Goto, Y. Taniguchi, H. Okamura, B. A. Jubran, H. Al-Hinai, **S. Al-Obeidani**, H. Yamada and H. Iwahashi (2003), “ A Full SWRO Plant of High Performance in Oman” IDA World Congress on Desalination and Water Reuse, Paradise Island, Bahamas, Sep. 28 – Oct. 3, 2003.
- 10- **S. Al-Obeidani**, Hilal Al-Hinai and M. F. Goosen (2002), “ Chemical Cleaning of Microfiltration Membranes” International Congress on Membranes and Membrane Processes, Toulouse France, 7-12 July 2002.

## **TECHNICAL REPORTS**

- 1- **Sulaiman Al-Obaidani**, Ahmed Al-Shuaily and Ali Al-Hsni, “Report of the Committee for Examination and Evaluation of Containers in the Desalination Research Station located in the University Land in Northern Hail” Report submitted to the Vice-Chancellor, SQU, October 2016
- 2- Mohammed Al-Abri and **Sulaiman Al-Obaidani**, “Development of UF and NF membranes”, Approved Final Report, Sultan Qaboos University Internal Grant, January 2015
- 3- **Sulaiman Al-Obaidani** and Mohamemd Al-Abri, “Use of NF membranes for water treatment”, Approved Final Report, Sultan Qaboos University Internal Grant, January 2015
- 4- Mohammed Al-Abri and **Sulaiman Al-Obaidani**, “Development of UF and NF membranes”, Approved 1<sup>st</sup> Report, Sultan Qaboos University Internal Grant, January 2014
- 5- **Sulaiman Al-Obaidani** and Mohamemd Al-Abri, “Use of NF membranes for water treatment”, Approved 1<sup>st</sup> Report, Sultan Qaboos University Internal Grant, January 2014
- 6- Joydeep Dutta, Mohammed Al-Abri, Abdulkhadir Elshafie, Yaseen Al-Mulla, Nabeel Al-Rawahi and **Sulaiman Al-Obaidani**, “Budgetary cost estimate of the SQU Desalination plant in Al-Hail” Approved Report, Sultan Qaboos University, September 2012
- 7- Joydeep Dutta, Mohammed Al-Abri, Abdulkhadir Elshafie, Yaseen Al-Mulla, Nabeel Al-Rawahi and **Sulaiman Al-Obaidani**, “The state of the SQU Desalination plant in Al-Hail” Approved Report, Sultan Qaboos University, June 2012

## **GRANTS**

- 1- HM Grant: 'Mitigation of polluted brine well-recharge using solar-powered zero-liquid discharge brackish water desalination in Oman'  
Code: SR/ENG/PCED/17/01  
Principle Investigator: Mohammed Al-Abri  
Co-Principle Investigator: **Sulaiman Al-Obaidani**  
Budget: OMR 75,000  
Funding Agency: His Majesty Trust Fund (HMTF)  
Status: Ongoing
- 2- Internal Grant: 'Development of UF and NF membranes'  
Code: IG/ENG/PCED/13/03  
Principle Investigator: Mohammed Al-Abri  
Co-Investigators: **Sulaiman Al-Obaidani**  
Budget: OMR 9,100  
Sponsor: SQU  
Status: Completed (2014)
- 3- Internal Grant: 'Use of NF membranes for water treatment'  
Code: IG/ENG/MIED/13/02  
Principle Investigator: **Sulaiman Al-Obaidani**  
Co-Principle Investigator: Mohammed Al-Abri  
Budget: OMR 8,450  
Sponsor: SQU  
Status: Completed (2014)

## **TEACHING**

### **INSTRUCTION AND PROJECT SUPERVISION**

#### **Courses Taught at SQU**

##### **Postgraduate Courses:**

- MEIE6014 Desalination & Water Treatment. Technology

##### **Undergraduate Courses:**

- MEIE4182 Applied Mathematics for Engineers
- MEIE4141 Fluid Mechanics
- MEIE5148 Desalination
- MEIE2102 Statics

#### **Courses Taught at the University of Calabria, Italy**

- Fluid Dynamics
- Water treatment

#### **Supervision of MSc Students**

- Student name: Mazin Al-Busaidi/92034  
Thesis Title: DEVELOPING A SOFTWARE/PROGRAM FOR DESIGNING AND SIZING OF COMPRESSORS IN GAS APPLICATION USING A SYSTEMATIC APPROACH  
Status: In progress

External Examiner of thesis of student: Fatima Said Al-Kindi.  
Thesis Title: Numerical Design and Fabrication of a Solar Powered Dryer for Agricultural Crops.  
January 2021

- Member thesis of student: Maryam Mohamed Zahran Al-Bulushi (I.D. # 117786)  
Thesis Title: Fabrication of Polyethersulfone Ultrafiltration Membranes Incorporated with Silver Nanoparticles for Water Treatment Applications.  
December 2020.
- External Examiner of thesis of student: Bader Saud Al Mawali.  
Thesis Title: Identification of the Occupational Health and Safety Challenges in Small and Medium Construction Companies in the Water Sector in Oman; Bridging the Gap Toward Zero Accident Vision  
September 2020.
- External Examiner of thesis of student: Bashayar Rashid Mubarak Al-Maqbali.  
Thesis Title: Thermodynamic Analysis of Ultra-Pure Water Production Plants.  
December 2019
- Member thesis of student: Noor Al-Hamimi (MSc Student ID#: S96085).  
Thesis Title: Reuse of End-of-life Seawater Reverse Osmosis (RO) Membranes for Brackish Water Treatment.  
September 2019
- Chair of thesis committee of student: Aalaa Abdullatif (ID# 114238).  
Thesis Title: CO<sub>2</sub> Capture Using Amino Acid Based Systems.  
September 2019

## **CURRICULUM DEVELOPMENT AND TEACHING MANAGEMENT AT SQU**

1. Developed course material and description for
  - a. MEIE6014 Desalination & Water Treatment. Technology
  - b. MEIE5148 Desalination

## **TEACHING ACTIVITIES OUTSIDE THE CLASSROOM**

1. Coordinating and conducting student visits to local industries (Barka and Al-Ghobra Desalination plants) for courses and projects; SQU

## **SERVICE**

### **UNIVERSITY ADMINISTRATION AND COMMITTEES**

1. College Committees:
  - o Chair, Pre-specialization Academic Advising Unit (PAAU) (2020 - present).
  - o Member, Industrial Training and Alumni committee (2019 - present).
2. Department Committees:
  - o Chair, Final Year Project (FYP) Coordinators (2020 – present)
  - o Member, Department Postgraduate Studies and Research (DPGSR) Committee (2019 – present)
3. Technical Committee Memberships

- a. Technical Committee of Chair in Nanotechnology for Desalination and water treatment, Sultan Qaboos University, Oman (2011-Current)
  - b. Member of the current state of Al-Hail facilities study committee, Sultan Qaboos University, Oman (2012).
4. Participation in the University and community service activities
- a. Chair, committee for examination and evaluation of containers in the desalination research station located in the University land in Northern Hail, September 2016, Qarar number (513/2016).
  - b. Supervising projects from Society of Engineering (SE)
  - c. Designed and built a lab-scale membrane filtration and a modular RO and NF pilot plant, SQU for the training of students and engineers interested to learn the major desalination technology used worldwide.

### **PROFESSIONAL SERVICE**

1. Review of manuscripts for international refereed journals
  - a. Journal of Membrane Science
  - b. Desalination
  - c. Desalination and Water Treatment
2. Member of the Organizing Committee for international refereed conferences:
  - a. “International Water Conference 2016” on “Water Resource in Arid areas: The Way Forward”, Muscat, Oman on 13-16 March, 2016
  - b. Member of the Organizing Committee of “International Water Conference 2016” on “Water Resource in Arid areas: The Way Forward”, Muscat, Oman on 13-16 March, 2016

### **OTHER INFORMATION**

#### **Seminar/Workshop Presentations**

1. Conducted a Workshop on Maintenance and Operation of RO desalination plants (2014)
2. Conducted a Workshop on Water Treatment for Intermediate and High School Students (2011)

#### **Professional Development**

1. Fundamentals of Technology Transfer, 25-26 November 2018, Sultan Qaboos University.
2. Innovation and Entrepreneurship, 14-16 December 2015, conducted by Dr Emad Summad, Innovation and Entrepreneurship Consultant, Quartet Solutions LLC, SQU.
3. Intellectual Property Rights and Patent Search, An Inseparable Tool to Foster Research an Innovation Outcomes, 30 November 2015, The Research Council, Muscat, Oman.
4. Springer Author Workshop, 29-October 2015, conducted by Dr Nabil Khélifi, Publishing Editor, Springer Middle East & North Africa, and Dr Jeffrey Robens, Editorial Development Manager, SQU, Oman.
5. Preparing Engineers for a Globalized Economy: How to Teach Engineering Students Process Skills, 26-28 May 2015, SQU, Oman.

6. Strategic program for renewable energy workshop, 8-9 April 2015, The Research Council, Muscat, Oman.
7. Water Re-Use Promotion Center (WRPC), three weeks training on Reverse Osmosis Desalination Plants, February 2003 Tokyo, Japan.