Resume 2019

Dr. FAHAD A. AL-SULAIMAN
Professor
Director, Center of Research Excellence in Renewable Energy
Director, Center of Excellence in Energy Efficiency,
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Short Biography

A professional with 18 years of experience in leading centers, managing projects, innovative research, educational programs development; an initiator and pro-active, visionary and strategic planner, inventor and professional writer, negotiator and professional speaker. A professional who takes initiatives and responsibilities with proven records to excel his work for better achievements. Expert in renewable energy, energy efficiency, cogeneration/trigeneration, cooling, water desalination, techno-economic studies for energy systems, feasibility studies & life cycle analyses, optimization of processes, energy efficiency & energy auditing, energy policy & regulations, and development of cutting edge technologies for commercialization potential.

Director of the Center of Research Excellence in Renewable Energy and the founding Director of the Center of Excellence in Energy Efficiency, both at KFUPM. Founder and supervisor of the Students Energy Club at KFUPM. Took the initiative to propose and chair the committees to establish a new MSc degree in renewable energy and another minor program in Energy for BSc students, as well as other courses and training programs in KFUPM.

Participated in publishing more than 130 high quality scientific papers and technical reports with proven records (the average impact factor for the ISI journal papers published is more than 6, h-index is 31, i10-index 58 and total citations of more than 3200). Obtained several patents that had been converted into pilot projects. Developed an innovative system that enhances air humidification and cooling using solar energy with better record as compared to existing similar systems, and developed a new solar chimney in which he doubled it power outputs. Received the best researcher award and won the best research project both from KFUPM for the academic year 2016-2017 with the highest rank in KFUPM. Participated in more than 30 different committees and attended more than 40 short courses and workshops in leadership, project management, research projects, entrepreneurship, educational skills, engineering skills, and dialogue skills. Attended more than 30 technical conferences and symposiums. Certified energy manager (CEM) and certified energy auditor (CEA) by the Association of Energy Engineers (AEE) and, in addition, certified trainer for CEM and CEA. He was/currently supervisor and committee member for tens of students for their graduate and undergraduate projects.

- Received his BSc (honor) and MSc from KFUPM, and his PhD from the University of Waterloo in mechanical engineering, with specialty in Energy.
- Joined the Center for Clean Water and Clean Energy at MIT as a postdoctoral associate for one year.
- Visiting scholar in the Rotating Equipment Division, Consulting Services Department (CSD), Saudi Aramco in the summer of 2002;
- Visiting professor in MIT in the summer of 2011;
- Visiting professor in the Solar Energy Research Institute, National University of Singapore (NUS) in the summer of 2015;
- Visiting professor in the Oxford Institute for Energy Studies (an RIC of the University of Oxford) in the summer of 2017;
- Visiting scholar at Saudi ARAMCO**,** Energy System Division, Process & Control Systems Department in the summer of 2019.

PROFESSIONAL EXPERIENCE

Oct 2016-present	**-Founding Director: Center of Exellence in Energy Efficiency,** Research Institute (RI) at KFUPM *- I led the preparation of the proposal for establishment of the Center; and met the funding authority to defend the proposal, which was approved with generous support for five years through the Saudi Energy Efficiency Program;* *- Leading the Center to undertake energy auditing and energy efficiency improvement for clients from industry and applied research projects, specifically for small and medium-scale industries and commercial buildings;* *- Meeting and negotiating with clients;* *- Development of the strategic plan and its implementation and managing the daily business of the Center;* *- Development and offering related energy courses and student training at undergraduate and graduate levels;* *- Students training through industrial visits and supervise them to conduct the energy audit and report writing;* *- Development of marketing tools;* *- Development of projects management plan of the Center;* *- Managing purchasing requests;* *- Community awareness about the importance of the energy efficiency;* *- Development of the Energy Efficiency Lab; and* *- Establishment of Student Energy Club at KFUPM and supervising its operation.*
Aug. 2014-Present	**Director, Center of Research Excellence in Renewable Energy**, Research Institute (RI) at KFUPM: *- Leading the Center for conducting industrial projects, applied research projects, and R & D projects;* *- Development of training programs and courses for students and engineers;* *- Developing innovative technologies related to renewable energy for commercialization potential;* *- Meeting and negotiating with clients;* *- Development of the strategic plan and supervised its implementation to meet Vision 2030;* *- Development of marketing tools; and* *- Research Labs development and supervision for the Center.*
Summer 2019	Visiting Scholar at **Saudi ARAMCO,** Energy System Division, Process and Control Systems Department. *Worked in:* • *Technology assessment for:* *- 4.0 industrial revolution (IR) applications for energy efficiency and solar energy systems,* *- cogeneration plants, and* *- advance thermal power cycles.* • *Reviewed standard for the optimization of combined heat and power systems.*
2018-present	Certified Energy Manager and Trainer by the **Association of Energy Engineers**
2018-present	Certified Energy Auditor and Trainer by the **Association of Energy Engineers**

Summer 2015	Visiting Professor, Solar Energy Research Institute, **National University of Singapore** *Worked on solar air-conditioning systems using energy recovery techniques to enhance their performance.*
Summer 2011	Visiting Researcher, Center for Clean Water and Clean Energy **MIT**, Cambridge, USA. One month.
Sept. 2011-Aug. 2012	Post-Doctoral Associate, Center for Clean Water and Clean Energy, Mech. Eng. Dept., **MIT**, Cambridge, USA. (one year) *- Worked in the development and testing of an efficient thermal/solar driven water desalination systems; and assessment of a new cogeneration plant.* *- Also, attended two short courses in leadership and one course in public speaking; and attended workshops on development of innovative ideas to patents and commercial products, professional writing of technical reports, and commercial presentations.*
Summer 2002	Visiting scholar at **Saudi ARAMCO**, Rotating Equipment Unit, Consulting Services Department. *Worked in issues related to compressors and their international standards for performance testing.*
Summer 2000	Trainee (internship) at **General Electric** (GE-MEELSA, in Dammam First Industrial City), maintenance section of turbine engines and their auxiliaries, Inspection and Quality Department.

ACADEMIC RANKING

Setp 2019 - present	Professor in ME Department at KFUPM
Sept 2015-Sept 2019	Associate Professor in ME Department at KFUPM
Mar. 2011-Sept 2015	Assistant professor in ME Department at KFUPM.
Dec. 2003-Feb. 2011	Lecturer at ME Department at KFUPM
July 2001-Nov. 2003	Graduate Assistant at ME Department of KFUPM.

EDUCATION

2005-2010	Ph.D., Mechanical Engineering (Energy), **University of Waterloo**, thesis title: "Thermodynamic Modeling and Thermoeconomic Optimization of Integrated Trigeneration Plants Based on Organic Rankine Cycle". Dec. 2010. The thesis work compared the performance and thermo-economic of power generation, cogeneration, and trigneration plants considering solar energy vs biomass vs fuel cells as sources of energy.
2001-2003	M.S. degree in Mechanical Engineering (area: Thermo-fluid Science), **KFUPM**, June 2003. Thesis title: "Test Facility Development for Small Centrifugal Compressors (Design Stage)".
1995-2001	B.S. Mechanical Engineering, **KFUPM**, Jan. 2001 with honors.

AWARDS:

1- Best Researcher Award, for the academic year 2016-2017, KFUPM; received the highest rank.

2- Best project Award, 'Thermodynamics Optimization of Solar Thermal Power Tower Systems with Thermal Storage"; May 1, 2013- Dec 31, 2014, award received for the academic year 2016-2017, KFUPM; received the highest rank.

COMMITTEES

Year	Committees and Roles	Serving
2019-present	KFUPM Collaboration with King Abdullah City for Atomic and Renewable Energy, Steering Committee, member	University
2019- present	Procurement committee for applied research projects, member	Research Institute
2018-2019	Review of personnel incentives in the Research Institute, ad-hoc committee, chairman	Research Institute
2018-2019	Establishment the Collaboration between KFUPM and King Abdullah City for Atomic and Renewable Energy , ad-hoc committee, member	University
2018-2019	Development of new Minor in Energy, ad-hoc committee, chairman,	College of Engineering
2018-2019	Development of Graduate Program in Renewable Energy, ad-hoc committee, chairman,	College of Engineering
2018-2019	Member of several promotion committees	University
2018-present	Research Institute Council, member	Research Institute
2018-present	Research Institute Policy & Planning Committee, member	Research Institute
2017-present	Research Institute Personnel Committee, member	Research Institute
2017- present	National Technical Committee for Solar System Standards (by Saudi Standard, Metrology, and Quality Organization), member	National
2016- present	Center of Excellence in Energy Efficiency, Member of the Board of Directors	National
2016-2018	Scientific Research Committee, standing committee, member	University
2016-2017	Unified Financial Office for Research Sector, ad-hoc committee, member	University
2015-2016	Desalination Research Direction Team, ad-hoc committee	Research Institute
2015-2016	Course Development "Fundamentals of Energy Efficiency", ad-hoc- committee, member	University
2015-2016	Research Support and assessment of research programs committee, member	University
2015-2016	Sponsoring FT PhD Student from Research Institute Centers, ad-hoc committee, member	University
2015-2016	Faculty Affairs Committee, Standing Committee, member	University

2014-2015	New Research Institute Building, ad-hoc committee, member	Research Institute
2014-2015	Research Institute personnel committee, member	Research Institute
2014-2015	Housing Committee, Standing Committee, member	University
2014-present	Research Institute Communications committee, member	Research Institute
2013-2014	Textbook sub-committee, Chairman,	ME Department
2013-2014	Ad hoc, U-Multirank System, member	ME Department
2013-2014	Faculty Hiring, Ad hoc, member	ME Department
2013-2014	Academic Affairs & Curriculum Committee, member	ME Department
2012-2013	Development of ME 452 lab handouts – Ad hoc, member	ME Department
2012-2013	Graduate /Doctoral Committee – member	ME Department
2012-2013	Build Leadership Research in Energy and Petrochemicals – Ad hoc committee, member	University
2012-2013	Academic Development Committee (ADC), member	University
2010-2011	ME Promoting & Industrial Relations Committee, member	ME Department
2006-2008	Vice President for Finance and Social Affairs, Saudi Students Club, Canada	Saudi Student Club
2004-2004	Students' academic guidance center, Student Affairs	University
2004-2004	Course & Teaching Evaluation Committee, member	ME Department
2001-2004	Public Relations Committee, member	ME Department

LIST OF UNDERGRADUATE AND GRAUDATE COURSES AND LABS TAUGHT AT KFUPM

1) ARE495: Fundamental of Energy Efficiency (taught one module of the course)
2) ME 203: Thermodynamics-I
3) ME 204: Thermodynamics-II
4) ME 315: Heat Transfer
5) ME 316: Thermo-fluids Laboratory
6) ME 411: Senior Project I (instructor)
7) ME 412: Senior Project II (instructor)
8) ME 414: Senior Project I for AME (instructor)
9) ME 416: Senior Project II for AME (instructor)
10) ME 413: Systems Dynamics & Control lab
11) ME 432: Internal Combustion Engines lab
12) ME 439: Solar Energy Conversion
13) ME 495: Directed Research/BS Research
14) ME 539: Solar Energy Utilization (graduate course)
15) ME 606: Independent Research (graduate research MS course)
16) ME 701: Directed Research I (graduate research PhD course)
17) ME 702: Directed Research II (graduate research PhD course)

LIST OF SHORT COURSES TAUGHT

1- Introduction to Solar Energy, organized by KFUPM

2- Introduction to Energy Auditing, organized by Center of Excellence in Energy Efficiency

3- Certified Energy Manager (CEM) by the Association of Energy Engineers (AEE); Certified Trainer by AEE.

SKILLS

Leadership	Leader of two Centers, project manager, initiator and pro-active, negotiator, and professional speaker and writer.
Language skills	Fluent in Arabic and English. Competent Communicator Award (English), 2018; Toastmasters International
Computer skills	EES ,MATLAB, MATHEMATICA, FLUENT, ProE, CFX, ICEM, Latex, Homer, and TecPlot software; and familiar with some other conventional programs.

PROGRAMS DEVELOPMENT, COURSES DEVELOPMENT, AND COURSE COORDINATION

- Chairman of an ad-hoc committee to develop a new MS program in Renewable Energy under the College of Engineering. The program proposes two streams: Master of Engineering and Master of Science. Under final approval and expected to start on Sept 2020.
- Chairman of an ad-hoc committee to develop a new minor in Energy under the College of Engineering; 2018-present; Under final approval and expected to start on Sept 2020.
- Member of the committee to develop a new multi-disciplinary course: ARE495: Fundamentals of Energy Efficiency (undergraduate). In addition, I taught one module of the course (2017).
- Proposed one new undergraduate course with one of my colleagues: ME495 Energy Auditing (2018).
- Proposed one new graduate course together with one of my colleagues: ME540 Energy Management (2018).
- Developed a one day short course in Energy Auditing together with one of my colleagues (2018)
- ME204 Thermodynamics – II, Semester 121; 2012, (Course Coordinator).

TEACHING AND RESEARCH LAB DEVELOPMENT

- For the Center of Excellence in Energy Efficiency: Developed a complete lab including instrumentation/tools required to be used as the Energy Efficiency Lab (2016-present). Fully responsible for the total establishment of the lab (identifying requirements, selection of items, procurement, and testing).
- For the Center of Research Excellence in Renewable Energy: assessed and monitored the status of existing labs, reviewed procurement requests, safety and quality assurance (Aug 2014-present).
- ME 452 Measurement and Lab Project (New Lab Manual), member of the ad-hoc committee, 2013.
- ME 432 Internal Combustion Engines Lab, (introduced new material to the manual entitled “International Codes of Performance Testing of Engines (one lab session), 2004.

SELECTED SHORT COURSES AND WORKSHOPS ATTENDANCE

1. Lean process improvement: eight-step model and Lean in action, KFUPM, 26-27 Aug, 2019, by Mark Robinson

2. Manager as Coach, KFUPM, Sept 19-20, 2018, Mr. Iftikhar Nadeem.

3. Trends and Practices of Training Undergraduates on Research Skills, Aug 14, 2018, KFUPM, Dr. Lee Phillips.

4. Managing Faculty Governance/Planning, Aug 8, 2018, KFUPM, Dr. William Bernhard.

5. Department Climate and Difficult Faculty, Aug 7, 2018, KFUPM, Dr. William Bernhard.

6. Academic Leadership, Aug 6, 2018, KFUPM, Dr. William Bernhard.

7. Energy Leadership Performance, May 9, 2018, KFUPM, Mr. Iftikhar Nadeem.

8. Decision making and problem solving, Nov 26, 2017, Academic Leadership Center, Dr. Jeffery Buller.

9. Smart Goals Setting Workshop for Leaders, Oct 23, 2017 KFUPM.

10. Energy Leadership Program Assessment & Coaching, iPEC, 2017.

11. 360 Leadership Assessment, Continuous Assessment & Coaching, Marshall Goldsmith Stakeholder Centered Coaching, 2017- 2019.

12. Certified Energy Auditor, Nov 13-17, 2016, Association of Energy Engineers.

13. Certified Energy Manager, Oct 16-20, 2016, Association of Energy Engineers.

14. LEAN in Higher Education, Aug 23-24, 2016, Dr. William K. Balzer.

15. Engineering Design, Aug 22, 2016, Dr. Steve Lambert.

16. Evaluating Higher-Order Thinking Skills, Aug 19, 2015, Dr. Kurt Geisinger.

17. Designing Instructional Strategies that Incorporate Student Teams, Aug 17, 2015, Dr. Jeffrey E. Froyd.

18. Designing an Instructional Plan Incorporating Research-based Instructional Strategies, Aug 17, 2015 Dr. Jeffrey E. Froyd.

19. Bedrock Programs of Academic Entrepreneurship and Their Role in Next Generation Innovation, Nov 5, 2014, Dr. J. Pekny, KFUPM.

20. Research Management for KFUPM Executives, Oct 19, 2014, KFUPM.

21. Workshops and tours on Atomic Energy Sector in France, EDF, 2014.

22. Teaching Professional Skills, Aug 24, 2013, By Dr. William Charles Oakes, KFUPM.

23. Student Motivation, Feb 24, 2013, by Dr. Saad Al-Aiban and Dr. Salih Duffuaa KFUPM.

24. Leadership Skills for Engineering and Science Faculty, June 18-19, 2012, MIT, Cambridge, USA, by Dr. Charles E. Leiserson and Dr. Chuck McVinney.

25. Public Speaking, May 8, 2012, MIT, Cambridge, USA by Bill Hoogterp and Michael Balaoing from BluePlanet.

26. Leadership in the 21st Century: Activating the Power within, Aligning with the Possibilities Ahead, Jan 23- Jan 27, 2012, MIT, Cambridge, USA by Partha Ghosh.

27. Teaching methods to inspire students; May 23-25, 2011. KFUPM, by Dr. David Wallace, MIT.

28. Workshop: hands-on experience in project-centric engineering design education, May 15-19, 2011, KFUPM, By Dr. David Wallace, MIT.

29. Solar Cell Day, May 8, 2011, KFUPM.

30. Workshop on Cooperative Learning: Team-Based Learning, April 19, 2011, KFUPM.

31. Leadership for Today and Tomorrow: The Dynamics and the Details, April 3, 2011, KFUPM.

32. Scientific publishing, DSR, KFUPM, March 22, 2011.

33. Service-Learning: Enhancing Learning, Developing Civic Responsibility, and Strengthening Communities, March 8-9, 2011.

34. Participatory classrooms, KFUPM, March 6, 2011.

35. Recent Advances in Solar Energy Utilization, Jan. 23, 2011.

36. Certificate in University Teaching Skills, October 19 - 23, 2009, Canada.

37. Communication Workshop for Engineering Reports and Dissertation (summer clinic), Canada, 2009.

38. Communication Workshop for Graduate Engineering Students, Canada, 2008.

39. Short course on Vibration in Rotating Machinery: Basics, Measurements & Balancing, Dec 20-24, 2003.

40. Short course on HVAC and Refrigeration, Analysis and Design, Oct 18-22, 2003.
41. Workshop on Safe Lab Environment, June 8, 2003.

42. Short course on Essentials of Turbines and Compressors Maintenance and Operations, Oct 26-30, 2002.

43. Short course on Vibration Measurement and Diagnostics with concentration on rotating equipment, Aug 10-14, 2002.

List of main research projects

Project Title and Tenure	Budget SR	Funding Agency	Investigator	Dept. [1]	Project Role [2]
Thermodynamic Optimization of a Novel Solar-Trigeneration Plant Using Hybrid Steam and Organic Rankine Cycles; June 1, 2011 - May 1, 2012	[redacted]	DSR, KFUPM	**F. A. Al-Sulaiman**	ME	**PI**
Seawater Desalination using Thermal, Solar, and Hybrid Systems, including Humidification Desalination; 1 August 2008 – 31 July 2014	[redacted]	Center for Clean Water and Clean Energy, MIT-KFUPM	J. H. Lienhard V	ME(MIT)	PI-1
			M.A. Antar	ME	PI-2
			S. M. Zubair	ME	Co-I
			M.H. Sharqawy	ME	Co-I
			F. A. Al-Sulaiman	ME	Co-I
			H. Abualmahayel	ME	Co-I
			A. M. Al-Qutub	ME	Co-I
			P. Gandidasan	ME	Co-I
Thermodynamics Optimization of Solar Thermal Power Tower Systems with Thermal Storage; 1 May 2013- 31 Dec. 2014	[redacted]	SABIC	**F. A. Al-Sulaiman**	ME	**PI**
Investigation of Solar Energy Driven Combined Power and	[redacted]	SABIC	Abdul Khaliq	ME	PI
			F. A. Al-Sulaiman	ME	Co-I

Cooling Thermodynamic Cycle, 1 Dec. 2011- 30 May 2015	[redacted]				
Development and Assessment of a New Water Humidifier for Water Desalination Applications, 1 June 2014-30 May 2017	[redacted]	DSR, KFUPM	**F. A. Al-Sulaiman**	ME	**PI**
			M. A. Antar	ME	Co-I
Investigation of Photovoltaic Panels Subjected to Uniform Cooling, 13 Mar. 2013 – 28 Feb. 2015	[redacted]	KACST	H. Bahaidrah	ME	PI
			P. Gandhidasan	ME	Co-I
			F. A. Al-Sulaiman	ME	Co-I
Application of Photovoltaic-Thermal Hybrid Solar Collector System in Saudi Arabia, 1 March- 2014- 28 Feb 2016	[redacted]	NSTIP	A. Z. Sahin	ME	PI
			F. A. Al-Sulaiman	ME	Co-I
برنامج توعية المجتمع حول ترشيد استهلاك الطاقة وأهمية الطاقة المتجددة Community Awareness about Energy Conservation and the Importance of Renewable Energy Program (1 Sept 2014-1 Aug 2015)	[redacted]	Ministry of Higher Education	E Mukheimer	ME	PI
			S. Said	ME	Co-I
			F. A. Al-Sulaiman	ME	Co-I
			M. A. Habib	ME	Co-I
			K. Soufi	RI	Co-I
Applications of Solar Chimney in Saudi Arabia, 1 April 2015 31 March 2017	[redacted]	DSR, KFUPM	**F. A. Alsulaiman**	ME	PI
Experimental and Modelling development of an optical filter based two-channels hybrid PV/T solar collector using nanofluids 2 April 2017- in progress	[redacted]	DSR, KFUPM	**F. A. Alsulaiman** M. M. Islam M. K. Hossain	ME CoRERE CORER E	PI Co-I Co-I
Advanced Heliostat Electrical Drive System (Solar Thermal Power), 1 Jan 2018.	[redacted]	GTEC-KFUPM	M Abdio **F. A. Alsulaiman etc**	EE ME	PI Co-I
Innovative Sustainable Water Desalination hybrid system, 1 Sept 2016; in progress	[redacted]	DISC-KFUPM,	M. A Antar Syed Zubair Atia Ismail **F. A. Alsulaiman**	ME ME ME ME	PI Co-I Co-I Co-I
Energy Auditing of ARASCO Facility, completed	[redacted]	(Client Funded Proposal)	E. Mokheimer **F. A. Alsulaiman** Firoz Ahmed Md. Shafiallah Jamilu Adam	ME ME CER CoRERE CEEE	PI Co-I Co-I Co-I Co-I

Energy Auditing of Academic Buildings (63), completed	[redacted]	CEEE	**F. A. Al Sulaiman** Esmail Mokheimer Adel Abdou	ME ME ARE	PI Co-I Co-I
Energy Auditing of Saudi Steel Pipe Manufacturing Facility, completed	[redacted]	CEEE	Esmail Mokheimer **F. A. Al Sulaiman** I Elamin	ME ME EE	PI Co-I Co-I
Energy Auditing of Academic Buildings KFUPM: (Building 76), completed	[redacted]	CEEE	Adel Abdou **F. A. Al-Sulaiman** Hassan Khan	ARF ME	PI Co-I Co-I
More than 5 proposlas are under review.	[redacted]				

[1] ME: Mechanical Engineering, RI: Research Institute
[2] PI: Principle Investigator, Co-I: Co-Investigator
[3] PM Project manager
DSR: Deanship of Scientific Research

RESEARCH AND PUBLICATIONS

Updated list and citations are in Google Scholar

https://scholar.google.com/citations?hl=en&user=a2c7JYwAAAAJ&view_op=list_works

List of Patents

1. **Al-Sulaiman, F.A.,** "Method for generating electrical power using a solar chimney having an inflatable Fresnel lens" United States Patent No: US 10,378,519 B1.
2. **Al-Sulaiman, F.A.,** "Solar-concentrating chimney system with inflatable Fresnel Lens" United States Patent No: US 10,371,125 B1.
3. **Al-Sulaiman, F.A.,** "Solar chimney for power production using Fresnel lens" United States Patent No: US 10,337,504 B1.
4. **Al-Sulaiman, F.A**. , "System And Method using Solar Thermal Energy for Power, Cogeneration and/or Poly-Generation using Supercritical Brayton Cycles", US Patent US9500185 B2.
5. **Al-Sulaiman, F.A.,** Antar MA, "Humidification-dehumidification desalination system" US Patent US9643102 B2.
6. NI Ibrahim, **Al-Sulaiman, F.A.,** Gandhidasan P. "Integrated solar absorption heat pump system", US Patent US10066856 B2.

7. NI Ibrahim, **Al-Sulaiman, F.A.,** Gandhidasan P., "Heat pump system with chilled water tank and photovoltaic thermal collector", United States Patent No: US 2018 / 0340716 A1.
8. NI Ibrahim, **Al-Sulaiman, F.A**., Gandhidasan P., "Integrated solar absorption heat pump system with evacuated tube solar collector", United States Patent No: US 2018 / 0356134 A1.
9. **Al-Sulaiman, F.A.**, Antar M, , Zubair Ifras, Dini S, "Water desalination using solar energy with thermal storage option", Filed, 15/892006.
10. Antar, M, Lawal Dahil. Khalifa Ata, Zubair SM, **Al-Sulaiman, F.A.** "Hybrid Mechanically Operated Humidification Dehumidification (HDH) Desalination & Climatic Control", Field, 15/980178.
11. **Al-Sulaiman,** F.A., Antar MA, Zubair Ifras, Al-Dini S. "Solar humidifier and dehumidifier desalination method and system for the desalination of saline water", United States Patent No: US 2019 / 0241444 A1.

List of ISI JOURNAL PAPERS

12. Ibrahim NI, **Al-Sulaiman, F.A**., Ani FN Performance characteristics of a solar driven lithium bromide-water absorption chiller integrated with absorption energy storage, Energy conversion and management 150, 188-200
13. Ifras ZM**, Al-Sulaiman, F.A. *,** Antar Mohammed A., Dini S., Ibrahim NI, "Performance and cost assessment of a solar HDH desalination system integrated with thermal storage: a case study", (2019), Desalination and Water Treatment", 1944-3994/1944-3986
14. Abdelrazik AS, **Al-Sulaiman, F.A.***, Saidur R, "Optical behaviour of a water/silver nanofluid and their influence on the performance of a photovoltaic-thermal collector", 2019/10/1, Journal: Solar Energy Materials and Solar Cells, Volume: 201, Pages 110054.
15. Abdelrazik Ahmed S, **Al-Sulaiman, F.A.,** Saidur R, Ben-Mansour R, "Evaluation of the effects of optical filtration and nanoPCM on the performance of a hybrid photovoltaic-thermal solar collector", 2019/9/1, Journal: Energy Conversion and Management, Volume: 195, Pages 139-156.
16. Sarı Ahmet, Al-Ahmed Amir, Bicer Alper, **Al-Sulaiman, F.A.,** Hekimoğlu Gökhan, "Investigation of thermal properties and enhanced energy storage/release performance of silica fume/myristic acid composite doped with carbon nanotubes", 2019/9/1, Journal: Renewable Energy, Volume 140, Pages 779-788
17. Zahir Md. Hasan , Shamseldin A. Mohamed, Saidur R, **Al-Sulaiman, F.A.,** "Supercooling of phase-change materials and the techniques used to mitigate the Phenomenon", (2019) Applied Energy, Volume 240, Pages: 793-817
18. Hussain, F.M., **Al-Sulaiman, F.A. *,** "Performance analysis of a solar chimney power plant design aided with reflectors", (2018) Energy Conversion and Management, 177, pp. 30-42.

19. Khan, M.A.M., Rehman, S., **Al-Sulaiman, F.A. ***, "A hybrid renewable energy system as a potential energy source for water desalination using reverse osmosis: A review", (2018) Renewable and Sustainable Energy Reviews, 97, pp. 456-477.
20. Abdelrazik AS, **Al-Sulaiman, F.A.*,** Saidur R, Ben-Mansour R, "A review on recent development for the design and packaging of hybrid photovoltaic/thermal (PV/T) solar systems", (2018) Renewable and Sustainable Energy Reviews, 95, pp. 110-129
21. Younas, M., Gondal, M.A., Mehmood, U., Harrabi, K., Yamani, Z.H., **Al-Sulaiman, F.A.,** "Performance enhancement of dye-sensitized solar cells via cosensitization of ruthenizer Z907 and organic sensitizer SQ2", (2018) International Journal of Energy Research, 42 (12), pp. 3957-3965.
22. Mehmood, U., Irshad, H.M., **Al-Sulaiman, F.A.,** Bashir, S., Yilbas, B.S., "Effect of Accumulation of Environmental Dust and Subsequent Mud Formation on Textural, Chemical, and Optical Properties of Silicon Wafers for Photovoltaic Cells", (2018) IEEE Journal of Photovoltaics, 8 (5), art. no. 8391751, pp. 1274-1280.
23. Salhi, B., Wudil, Y.S., Hossain, M.K., Al-Ahmed, A., **Al-Sulaiman, F.A.,** "Review of recent developments and persistent challenges in stability of perovskite solar cells", (2018) Renewable and Sustainable Energy Reviews, 90, pp. 210-222.
24. Mahbubul, I.M., Khan, M.M.A., Ibrahim, N.I., Ali, H.M., **Al-Sulaiman, F.A.,** Saidur, R., Carbon nanotube nanofluid in enhancing the efficiency of evacuated tube solar collector, (2018) Renewable Energy, 121, pp. 36-44.
25. Sarı, A., Bicer, A., Al-Ahmed, A., **Al-Sulaiman, F.A.,** Zahir, M.H., Mohamed, S.A."Silica fume/capric acid-palmitic acid composite phase change material doped with CNTs for thermal energy storage", (2018) Solar Energy Materials and Solar Cells, 179, pp. 353-361.
26. Yilbas, B.S., Ali, H., Al-Sharafi, A., **Al-Sulaiman, F.A.,** Karatas, C. , "Effect of environmental dust particles on laser textured yttria-stabilized zirconia surface in humid air ambient", (2018) Optics and Laser Technology, 101, pp. 388-396.
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132. Investigation of Solar Energy Driven Combined Power and Cooling Thermodynamic Cycle, 1 Dec. 2011- 30 May 2015, Co-Investigator.
133. Development and Assessment of a New Water Humidifier for Water Desalination Applications, 1 June 2014-30 May 2017, Principle Investigator and project manager.
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Students Supervision

UDERGRAUTE STUDENTS ADVISING

Undergraduate (COOP Training)	**Advisor** (102-103) Abdulmajid M AlQahtani, (113-121) Omair M Siddiqui, (113-121) Ibrahim Ma'moun H Tahboub, (122-123) Ismael A Tombakti, (122-123) Marwan H Al-Towairqi, (123-131) Ahmad S Al-Zahrani, (132-133) Ba-Abdullah, Omar (132-133) Al-Hashem, Mahdi (133-141) Al-Garni Saad (133-141) Bukahmseen, MA, (142-151) Al-Jasham A. G.; (152-153) Almansour, Ali, (153-161) Alfaraj, M. , (162-163), Alruhaili, Faisal, (163-171), Alhrthi Rakan, (172-173) Alserhan, Saeed, (173-181) Alqahtani, Meshari, (182-183) Alsaaran, Abdulaziz (182-183) Alsaidlani, Osamah (183-191) Alsaad,M. A. (183-191) Ashams, M. M.
SENIOR DESIGN PROJECTS SUPERVISION	
122-131	Hamad Abd Ul Rahman Abd-Ullah S., Al-Zahrani Abdul-Majeed Saeed Abdullah, Al-Sowaij Abd Al-Hakim, Project Title: “Development of a Convergent Channel for Photovoltaic Cooling”, Advisor.
122-131	Ba-Sharahel Abdul-Rahman Bader, Al-Meshal Mohammad Abdul-Aziz Sula, Al-Juhani Mohammad Hulail, Project Title: “Development of a Solar Humidifier for Water Desalination”, Advisor.

131-132	Al-Ghamdi Abdul-Majeed Mohammad, Al-Mousa Fahad Abdul-Rahman, Al-Dajaani Ahmad Aayedh, Project Title: “Development of Solar Dehumidifier for Water Desalination”, Advisor.
131-132	Faisal Al-Amer, Al-Jaed Abdul-Aziz Awdh, Al-Ajmi Mohammad, Ba-Dugaish Ziyad Saleh, Project Title: “Development of Water Jet System for Photovoltaic Cooling”, Co-Advisor.
132-141	Al-Shahrani Yasser Mohammad, Al-Tamimi Qusay Mhmoud, Al-Mutairi Turki Hamoud, Project Title: “Development of an Improved Solar Humidifier for Water Desalination”, Advisor.
142-151	Al-Khaldi Nasser Abdullah, Al-Hazzaa Mohammad Saud, Al-Shamrani, Abdul-Khaliq Mesfer, Project Title: “Applications of Novel Solar Chimney in Saudi Arabia”, Advisor.
152-161	Almutlaq Abdullah, Al Blushi Ali, Project Title: “Development of a New Solar Chimney with reflectors”, advisor.
152 & 162	Sait Sohaib, Abdulkhaliq Saeed, Almousa , Fares, Project Title: “Development of a PV thermal cooling system”, advisor.
152 & 162	Al-Shehry Abdullah, Al-Onaizan Osamah, Al-Owaishez Abdullah, Project Title: “Development of Integrated Solar Thermal Collector and PV/Thermal System”, advisor
172 & 182	Abdruhaman A Alkhateeb Osamah Alsubhi Osamah Almadani Project Title: “Development of a New Passive Cooling System”, advisor
191-192	Turki Almadi Fawaz Alhomaidan Tameem Alkhudairi Moataz Alahmadi Project title: “Solar Thermal Heating of Water under Asphalt.

UNDERGRADUATE STUDENTS COOP AND SENIOR DESIGN PROJECT EXAMINATION

- Committee member for COOP student's presentation, on the average four students in each semester.

- Committee member for senior design projects presentation, on the average nine students in each semester.

GRADUATE STUDENTS THESIS SUPERVISION AND COMMITTEE MEMBERSHIP

Advisor	MS, Atif Maimoon, Thesis Title: "Optimization and Thermal Performance Analysis of Supercritical Carbon Dioxide Brayton Cycles Driven by Solar Thermal Power Tower Systems," completed, Oct. 2014. MS, Amin Kouta (Part time), Thesis Title: "Optimization and Thermal Performance Analysis of Solar Driven Combined Power and Water desalination System Using Supercritical Carbon Dioxide Brayton Cycles," completed, May 2015. MS, Hafiz Abd-ur-Rehman, Thesis Title: "Experimental and Thermal Investigation of Water Humidifier Driven by Solar Energy," completed, Dec 2015. MS, Faisal Moiz Hussain, Thesis Title: "Experimental and Thermal Investigation of Solar Chimney Under Saudi Arabia Weather Conditions," completed, May 2017. MS, M Faisal Musa, Thesis Title: "Renewable energy-powered hybrid NF/FO/RO membrane system for brackish water desalination" completed, May 2018. MS, A K Alrubayan, "Performance and Cost Analyses of Hybrid Diesel-PV Powered Small Brackish Water Systems in Saudi Arabia" completed, Dec 2018. MS, Hamad A Al-Mahmoud, "Solar-Driven Combined Ejector Refrigeration and Humidification Dehumidification Desalination System", completed. PhD, Ahmed S Soliman, "Experimental and numerical study of the performance enhancement of hybrid PV/T solar system under usage of optical filtration nanofluid and nano-PCM", completed, MS, Sohayb O Badandi, "Solar Driven Evaporative Cooler", in progress, MS, Faisal Almutairi, "Solar Driven Air Conditioning System using a Novel pre-Cooling System", in progress.
Committee member	MS, Ahmer B Baloch, "Numerical and Experimental Investigation of Uniform Cooling Techniques for Photovoltaic Panels," completed Dec. 2014.

	MS, Mohamed Ifraz Zubair, “Performance Assessment of Humidification-Dehumidification Water Desalination System with Storage Option Using Solar Energy,” completed, 2016. MS, Suhaib M Ahmed. “Air and Water Gap Multistage Membrane Distillation Systems for Water Desalination, Completed, Jan 2017. MS, Ahmed S Abuelyamen, "Computational Fluid Dynamic and Heat Transfer Modeling of Stirling Engine", completed, Jan 2017. MS, Hamza K. A Mukhtar, "Transient Thermodynamic Analysis of Generator in a Solar Absorption System Designed for Hot and Humid Regions", completed, Jan 2017. MS, Ahmed Abdalmonem, “Solar Powered Multistage Direct Contact Membrane Distillation System for Water Desalination”, completed, May 2017. MS, Muhammad O Lari, “Design and economic analysis of nanofluid based photovoltaic thermal (PVT) system with thermal storage”, completed, May 18, 2017 MS, Khalid M Almutairi, “Experimental Study of a New Humidification Dehumidification Desalination System”, completed Dec 2017. MS, Qazi Talal, “Modeling and Numerical investigation of a falling film liquid desiccant dehumidifier with nanoparticles”, completed May 2018. PhD, Muhammad Younas, "Fabrication of perovskite & dye sensitized solar cells and their parametric optimization", completed April 2019. PhD, Dahiru Umar Lawal, “Heat Pump Operated Humidification-Dehumidification Desalination System”, Completed April 2019. PhD, M. Hamdy Abdelraheem, “Investigation of ITM In-Situ combustion for thermal Enhanced Oil Recovery”, in progress. PhD, Waleed M A Hamanah, “Advanced Heliostat Electrical Drive System for Solar Power Tower Technology”, in progress. PhD, Ghassan H Abdelmagid, “Water Droplet Behavior On Inclined Dusty Hydrophobic Surface: Dust Characteristics and Droplet Dynamics”, completed.
MEng Graduation Committee Member	I was a committee member for the graduation project of 20 students as part of their graduation requirements for MEng Degree in Sustainable Energy offered by KFUPM.