

CURRICULUM VITAE

PERSONAL DATA

Salem Algarni, PhD
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APPOINTMENTS

5/2017-Present	Vice Dean for Development and Quality , College of Engineering, King Khalid University
5/2016 to 5/2017	Department Head , Mechanical Engineering, King Khalid University
12/2019- Present	Associate Professor of Mechanical Engineering King Khalid University, Abha, Kingdom of Saudi Arabia
7/2015-12/2019	Assistant Professor of Mechanical Engineering King Khalid University, Abha, Kingdom of Saudi Arabia
1/2015-7/2015	Lecturer of Mechanical Engineering King Khalid University, Abha, Kingdom of Saudi Arabia
3/2007-1/2015	Teaching Assistant of Mechanical Engineering King Khalid University, Abha, Kingdom of Saudi Arabia

EDUCATION

8/2011-7/2015	Ph.D in Mechanical Engineering <i>Dissertation Title:</i> "Modeling Radiation Heat Transfer for Building's Cooling and Heating Loads: Considering the Role of Clear, Cloudy, and Dusty Conditions in Hot and Dry Climates" University of Arkansas, Fayetteville, AR, USA
1/2009-12/2010	M.Sc. in Mechanical and Aerospace Engineering Oklahoma State University, Stillwater, OK, USA
1/2008-12/2008	English as a second language Oklahoma State University, Stillwater, OK, USA
1/2003-12/2007	B.Sc. in Mechanical Engineering with Honors King Khalid University, Abha, Kingdom of Saudi Arabia

Research Experience and Interest

- Thermal systems; modeling, simulation and optimization
- Thermoelectric materials
- Renewable energy
- Sustainable energy & water resources
- Building energy systems

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- Ground source heat pump

TEACHING EXPERIENCE

7/2015-Present	King Khalid University, Abha, Kingdom of Saudi Arabia • Heat Transfer • Refrigeration and Air Conditioning • Senior design projects • Thermodynamics 1 & 2 • Engineering Drawing
Summer 2012	University of Arkansas, Fayetteville, AR, USA • Thermodynamics-1 • Special project

SERVICE AT King Khalid University

10/2015-Present	Member of the following committees: Graduated Project, Laboratories & workshops, Academic Curriculum plan, Exams monitoring, and others... Member of the Engineering College council Member of the Mechanical Engineering council
10/2015-10/2016	Head of Engineering Student Affairs
10/2015-12/2016	Advisor of Engineering Consulting and Advising Unit
8/2017- 5/2018	Recruitment Head

INDUSTRY EXPERIENCE

8/2011-7/2015	<i>Team Member:</i> The Arkansas Industrial Energy Clearinghouse; University of Arkansas, Fayetteville, AR, USA
2005	<i>Summer Intern:</i> Grain Silos and Flour Mills Organization; Khamis Mushait, Kingdom of Saudi Arabia

HONORS AND AWARDS

1. Abha Award for higher education- 2007
2. Scholarships for studying MS and PhD in Engineering

PUBLICATIONS

1. **Algarni, S.,** Nutter, D., 2013. Geospatial Representation of the Residential Energy Use in Saudi Arabia. Proceedings of the 2013 ASME Early Career Technical Conference (ECTC), April 4–6, Tulsa, Oklahoma, USA.
2. **Algarni, S.,** Nutter, D., 2015. Survey of Sky Effective Temperature Models Applicable to Building Radiant Heat Transfer., *ASHRAE Transactions*, vol. 121, part 2-in press.
3. **Algarni, S. A., & Nutter, D. W.** (2015). Effect of clouds and dust storms on the sky radiation exchange for buildings located in hot–dry climates. *Science and Technology for the Built Environment*, 21(4), 403-412.
4. **Algarni, S., & Nutter, D.** (2015). Influence of dust accumulation on building roof thermal performance and radiant heat gain in hot-dry climates. *Energy and Buildings*, 104, 181-190.

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5. Almutairi, K., Thoma, G., Burek, J., **Algarni, S.**, & Nutter, D. (2015). Life cycle assessment and economic analysis of residential air conditioning in Saudi Arabia. *Energy and Buildings*, 102, 370-379.
6. **Algarni, S.**, Nutter, D., 2016. Impact of Dust Storms on Residential Buildings' Energy Performance in Saudi Arabia. *Proceedings of 6th International Conference on Energy Research and Development*, March 14-16, State of Kuwait.
7. **Algarni, S.**, 2016. Residential Buildings Energy Consumption and Environmental Interactions in Asir Region, Kingdom of Saudi Arabia. *Proceedings of 1st Saudi Conference on the Environment Sustainable Management of Natural Resources*, March 7-9, Abha, Saudi Arabia.
8. Shehata, M., **Algarni, S.**, Alharthi, A., & Asiri, A., 2016. Exhaust Gas Emissions Control and Utilization of Exhaust Waste Heat for Water Desalination. *Proceedings of 1st Saudi Conference on the Environment Sustainable Management of Natural Resources*, March 7-9, Abha, Saudi Arabia.
9. **Algarni, Salem, C. A.** Saleel, and M. Abdul Mujeebu, 2018 "Air-conditioning condensate recovery and applications—Current developments and challenges ahead." *Sustainable Cities and Society* 37, 263-274.
10. Syed, J., Baig, R.U., **Algarni, S.**, Murthy, Y.S., Masood, M. and Inamurrahman, M., 2017. Artificial Neural Network modeling of a hydrogen dual fueled diesel engine characteristics: An experiment approach. *international journal of hydrogen energy*, 42(21), pp.14750-14774.
11. **Algarni, S.** Assessment of fog collection as a sustainable water resource in the southwest of the Kingdom of Saudi Arabia. *Water and Environment Journal*.2018, DOI: 10.1111/wej.12330
12. Abdelmohimen, M. A., & **Algarni, S. A.** (2018). Numerical investigation of solar chimney power plants performance for Saudi Arabia weather conditions. *Sustainable Cities and Society*, 38, 1-8.
13. **Algarni, S.** Mellouli, S. Abhilash, E., Performance analysis of a solar powered wheel chair, *Journal of Engineering Technology*, Volume 6, Special Issue on Technology Innovations and Applications Oct. 2017, PP. 212-216
14. **Algarni, Salem A.**, Mostafa A. Abdelmohimen, and C. A. Saleel. "Potential of energy and water sustainability from HVAC unit condensate water in hot-humid climate of Jazan, Saudi Arabia." *Second international conference on energy and indoor environment for hot climates*. 2017.
15. Irshad, K., Khan, A. I., **Algarni, S.**, Habib, K., & Saha, B. B. (2018). Objective and subjective evaluation of a sleeping environment test chamber with a thermoelectric air cooling system. *Building and Environment*.
16. **Algarni et al.** (2018) "Sizing and life cycle cost analysis of building integrated thermoelectric air cooling and photovoltaic wall system", in press
17. **Algarni et al.** (2018) "The effects of variable input power supply to thermoelectric air cooling duct system on occupants sleep and thermoregulation", in press
18. Mellouli, S., Askri, F., Edacherian, A., Alqahtani, T., **Algarni, S.**, Abdelmajid, J., & Phelan, P. (2018). Performance analysis of a thermal energy storage system based on paired metal hydrides for concentrating solar power plants. *Applied Thermal Engineering*, 144, 1017-1029.
19. Saleel, C. A., Mujeebu, M. A., & **Algarni, S.** Coconut oil as phase change material to maintain thermal comfort in passenger vehicles. *Journal of Thermal Analysis and Calorimetry*, 1-8.
20. Sayeed Ahmed, G., & **Algarni, S.** (2018). Design, Development and FE Thermal Analysis of a Radially Grooved Brake Disc Developed through Direct Metal Laser Sintering. *Materials*, 11(7), 1211.
21. **Algarni, S.** (2018). Potential for cooling load reduction in residential buildings using cool roofs in the harsh climate of Saudi Arabia. *Energy & Environment*, 0958305X18787340.

PROFESSIONAL MEMBERSHIPS

2010-present	ASHREA - American Society of Heating, Refrigerating and Air-Conditioning Engineers
2012-2014	ASME - American Society of Mechanical Engineers

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