

CURRICULUM VITA

Dr. Obida Zeitoun

PERSONAL DATA

Name: Obida M. Zeitoun
Mech. Eng. Dept., Faculty of
Engineering, King Saud University

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EDUCATION

Ph.D. McMaster University, Hamilton, Ontario, Canada, 1995, Mechanical Engineering.
M.Sc. Alexandria University, Alexandria, Egypt, 1988, Mechanical Engineering.
B.Sc. Alexandria University, Alexandria, Egypt, 1983, Mechanical Engineering.

ACADEMIC RECORD

Jan. 2007- Present: Associate Professor, Department of Mechanical Engineering, King Saud University, Riyadh, Saudi Arabia
Sep. 2000 – Jan. 2007: Assistant Professor, Department of Mechanical Engineering, King Saud University, Riyadh, Saudi Arabia
1995-2000 Assistant Professor, Mechanical Engineering department, Faculty of Engineering, Alexandria University, Egypt.
1988-1994 Teaching Assistant, Dept. of Mech. Eng., McMaster University, Hamilton, Ontario, Canada.
1988-1989 Assistant Lecturer, Mech. Eng. Dept., Faculty of Engineering, Alexandria University.

RESEARCH INTEREST

Heat Transfer, Energy, Desalination, Two Phase Flow

CONSULTING

- Multi effect desalination-Technology transfer program, Joint program; Doosan, SWCC and King Saud University, Saudi Arabia.
- Calibration of temperature instrumentation and controls for many companies, Alexandria, Egypt.
- Short courses in Boilers, Steam Turbines, Calibration of temperature instrumentation, Advanced Heat Transfer, and Energy Management.
- Boiling around large tubes, Ontario Hydro, 1991, Canada.

HONORS , AWARDS

CIDA-McMaster University research scholarship and Teaching Assistant, McMaster University, Hamilton, Ontario, Canada, 1989-1994
Mechanical engineering first ranking award, Alexandria University, Egypt, 1983
Undergraduate scholarship, Alexandria University, Alexandria, Egypt, 1978-1983.
The top of the mechanical engineering department students, Alexandria University, Alexandria, Egypt from 1979-1983

GRANTS (FUNDED PROJECTS)

- Mohamed Ali, Obida Zeitoun, H. Al-Ansary and A. Nuhait, "Performance improvement of gas turbine station in the Kingdom using membrane evaporative inlet air cooling" Project # 08-ENE220-2 supported by King Abd-Alaziz for Science and Technology and King Saud University within the National Strategic Planning, (funded project, SR 929000.00), 2012.
- Mohamed Ali and Obida Zeitoun, "Extracting new insulating material from some plants in the Kingdom" Project # 08-ENE335-02 supported by King Abd-Alaziz for Science and Technology and King Saud University within the National Strategic Planning, (funded project, SR 590560.00), 2012.
- King Abdullah Institute for Nanotechnology: Experimental Investigation on cooling a circular horizontal surface using a nanofluid liquid jet (funded project SR 271000).
- King Abdullah Institute for Nanotechnology: Natural convection heat transfer using nanofluids in horizontal enclosure, (funded project, SR 217000).
- SABIC research project program: Feasibility of Using Highly Cold Air In Air Conditioning In Riyadh.
- National research project program: Heat recovery from gas turbine plants in KSU, 2003-2005.
- SABIC research project program: Hardening of SABEC PVC tubes using water jets, 2004-2005.

College research center program: Heat transfer from partially heated tubes, 2003-2004.

Publications

a. Journal Papers:

1. Mohamed Ali, O. Zeitoun and Salem Almotairi, "The effect of Alumina-water nanofluid on natural convection heat transfer inside vertical circular enclosure heated from above" *Heat Transfer Engineering*, Vol. 34, Issue 15, May/June, 2013
2. O. Zeitoun, Mohamed Ali, and H. Al-Ansary, the effect of particle concentration on Cooling of a circular horizontal surface using nanofluid jets, *Nanoscale and Microscale Thermophysical Engineering*, 17: 154–171, 2013.
3. Mohamed Ali, O. Zeitoun, Salem Almotairi, Natural convection heat transfer inside vertical circular enclosure filled with water-based Al₂O₃ nanofluids, *International Journal of Thermal Sciences* 63 (2013) 115e124.
4. O. Zeitoun and Mohamed Ali, "Nanofluid impingement jet heat transfer", *Nanoscale Research Letters*, 7:139, 2012.
5. O. Zeitoun, "Heat transfer between a vertical water jet and a horizontal square surface", *Experimental Heat Transfer*, VOL 25, ISS 3, pp. 206-221, June, 2012.
6. Mohamed Ali and O. Zeitoun, "Discovering and manufacturing a new natural insulating material extracted from a plant grows up in Saudi Arabia", *International Journal of Engineered Fibers and Fabrics*, vol. 7, Issue 4, 2012. ISI, Impact factor: 0.771.
7. H. Al-Ansary, O. Zeitoun and Mohamed Ali, "Numerical Modeling of Natural Convection Heat Transfer Around Horizontal Triangular Ducts." *Numerical Heat Transfer, Part A Applications*, Volume 61, Issue 3, February 2012, pages 201-219
8. Hany A. Al-Ansary, O. Zeitoun, Numerical Study of Conduction and Convection Heat losses from a Half-Insulated Air-Filled Annulus of the Receiver of a Parabolic Trough Collector, *Solar Energy*, No. 85, Vol. 11, 2011, Pages 3036–3045
9. O. Zeitoun, Mohamed Ali, and A. Nuhait, "Convective heat transfer around a triangular cylinder in an air cross flow", *International Journal of Thermal Sciences*, Vol. 50, No. 9, pp. 1685- 1697, 2011.
10. Mohamed Ali O. Zeitoun and A. Nuhait, Forced convection heat transfer over horizontal triangular cylinder in cross flow, *International Journal of Thermal Sciences*, vol. 50, No. 1, pp 106- 114, 2011
11. O. Zeitoun, Mohamed Ali, and A. Nuhait, "Numerical study of forced convection around heated horizontal triangular ducts", *Advanced Computational Methods and Experiments in Heat Transfer XI*, WIT Transactions on Engineering Sciences, vol. 68, pp. 201-212, 2010.
12. Mohamed Ali and O. Zeitoun, "Mohamed Ali and O. Zeitoun, "Nanofluids Forced Convection Heat Transfer inside Circular Tubes", *Int. J. Nanoparticles*, Vol. 2, Nos. 1/2/3/4/5/6, 2009
13. O. Zeitoun and M. Ali, "Nanofluids natural convection heat transfer in horizontal annulus", *Int. J. Nanoparticles*, Vol. 2, Nos. 1/2/3/4/5/6, 2009
14. Kiwan, S. and Zeitoun, O., "Natural convection in a horizontal cylindrical annulus using porous fins", *International Journal for Numerical Methods in Heat and Fluid Flow*, Vol. 18, No.5, pp.618-634, 2008.
15. Alshahrani, D. and Zeitoun, O., "Natural convection in horizontal annulus with fins attached to inner cylinder", *Int. J. Heat and Technology*, Vol. 24, No. 2, pp. 159-168, 2006.
16. Zeitoun, O. and Ali, M., "Numerical investigation of natural convection around isothermal horizontal rectangular ducts", *Numerical Heat Transfer, Part A*, Vol. 50, pp. 189–204, 2006
17. Alshahrani, D. and Zeitoun, O., "Natural convection in horizontal cylindrical annuli", *Alexandria Engineering Journal*, Vol. 44, No. 6, Alexandria University, Egypt, 2005.
18. Zeitoun, O. "Natural convection from a vertical plate enclosed in a horizontal cylinder", *Int. Journal of Heat and Technology*, 2004.

19. Zeitoun, O. "Heat Transfer for Laminar Flow in Partially Heated Tubes", Alexandria Engineering Journal, Alexandria University, Egypt , Vol. 41, no. 2, pp. 205-212, 2002.
20. Zeitoun O., A. S. Hegazy, "Heat Transfer For Laminar Flow In Internally Finned Pipes With Different Fin Heights And Uniform Wall Temperature", Heat and Mass Transfer Vol. 40, pp. 253-259, 2004.
21. Zeitoun, O., "Multi-stage flash system performance with reference to solar energy", Alexandria Engineering Journal, Alexandria University, Egypt , Vol. 37, no. 3, pp. A167-A173, 1998.
22. Zeitoun, O. and Shoukri, M. 1997 "Void Fraction Profile in Subcooled Flow Boiling", Int. J. of Heat and Mass Transfer, Vol. 40, pp. 869-879.
23. Zeitoun, O. and Shoukri, M. 1996 "Bubble Behaviour and Mean Diameter in Subcooled Flow Boiling", ASME J. Heat Transfer, Vol. 118, pp. 110-116.
24. Zeitoun, O., Shoukri, M. and Chatoorgoon, V. 1995 "Interfacial Heat Transfer between Steam Bubbles and Subcooled Water in Vertical Upward Flow", ASME J. Heat Transfer, Vol. 117, pp. 402-407.
25. Zeitoun, O. and Shoukri, M., 1995 "Void Fraction Profile in Subcooled Water-Steam Bubbly Flow", Heat and Technology, Vol. 13.
26. Zeitoun, O., Shoukri, M. and Chatoorgoon, V. 1994 "Measurement of Interfacial Area Concentration in Subcooled Liquid-Vapour Flow", Nuc. Eng. and Design, Vol. 152, pp. 243-255.

b. Conference Papers:

1. Hany Al-Ansary and Obida Zeitoun, "Heat loss experiments on a non-evacuated parabolic trough receiver employing a thermally insulating layer in the annular gap", Proceedings of the ASME 2013 7th International Conference on Energy Sustainability, ES2013, July 14-19, 2013, Minneapolis, MN, USA, ES2013-18078.
2. Ali, M., Zeitoun, O., Al-Ansary, H., and Nuhait, A., "Air cooling using a matrix of ceramic tubes", Fourth International Conference on Porous Media and its Applications in Science, Engineering and Industry, June 17- 22, 2012, Potsdam, Germany.
3. Mohamed Ali and Obida Zeitoun, "Thermal conductivity of a new natural insulating material extracted from some plant grows up in Saudi Arabia" International Conference on innovative Technologies, IN-TECH 2011, Bratislava, Slovakia, September 1-3, 2011.
4. Al-Ansary, H.A. and Zeitoun, O., 2011, "Experimental Tests on Parabolic Trough Receivers Employing Bifurcated Air-Filled Annuli", Proceeding of the 5th International Conference on Energy Sustainability, Washington, DC, Paper # ESFuelCell2011-54187.
5. O. Zeitoun, Mohamed Ali, A. Nuhait, "Numerical study of forced convection around heated horizontal triangular ducts", Fourteenth International Conference on Computational Modeling and Experimental Measurements, 10-12 June 2009, Algarve, Portugal.
6. Mohamed Ali , O. Zeitoun and A. Nuhait, Forced convection heat transfer over horizontal triangular cylinder in cross flow, the 7th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, 19- 21 July 2010, Antalya, Turkey.
7. Mohamed Ali and O. Zeitoun, "Nanofluids Forced Convection Heat Transfer inside Circular Tubes" Proceedings of the International Conference on Nanotechnology (ICON008), June 17-19, 2008, Jeddah, Saudi Arabia.
8. O. Zeitoun and Mohamed Ali, "Nanofluids Natural Convection Heat Transfer in Horizontal Annulus " Proceedings of the International Conference on Nanotechnology (ICON008), June 17-19, 2008, Jeddah, Saudi Arabia.
9. O. Zeitoun "Feasibility of Using Highly Cold Air in Air Conditioning in Riyadh", Int. Conference of Applied Mechanics and Mechanical Engineering, May 27-29, 2008, Cairo, Egypt.

10. H. Alansary, O. Zeitoun and Mohamed Ali, "Numerical study of natural convection from a uniformly heated horizontal triangular duct", Proceedings of the 7th Saudi Engineering Conference (SEC7), 2007.
11. Zeitoun, O. and A. Hassan, "Turbulent Forced Convection in Partially Heated Tubes", Proceedings of the 4th International Engineering Conference (4th IEC), pp. M-215-M221, Mansoura University, Sharm ElSheikh, Egypt , 20-22 April 2004.
12. Zeitoun, O., Youssef, R. and Sorour, M., "Bubble Characteristics in Still and Flowing Water in a Vertical Annulus", 1st International Congress of Mechanics- Constantine, Algeria, pp. 516-525, 14-16 Dec. 2002.
13. Zeitoun, O. "Conjugate Laminar Forced Convection in Partially Heated Tubes", ACOMEN: Second international conference on advanced computational methods in engineering, Belgium, May 28-31, 2002.
14. Zeitoun O., A. S. Hegazy, "Heat Transfer For Laminar Flow In Internally Finned Pipes With Different Fin Heights And Uniform Wall Temperature", Seventh International Conference on Fluid Dynamics and Propulsion, Cairo, Egypt, 2001.
15. Zeitoun, O. and Shoukri, M. 1996 "Bubble Behaviour and Mean Diameter in Subcooled Flow Boiling", presented in 7th International meeting on nuclear reactor thermal-hydraulics, NURETH-7, Saratoga, Sept. 1995.
16. Zeitoun, O. and Shoukri, M., 1995 "Void Fraction Profile in Subcooled Water-Steam Bubbly Flow", presented in International Symposium on Two-Phase Flow Modelling and Experimentation, Rome, Oct. 1995.
17. Zeitoun, O. and Shoukri, M. 1995 "On the Net Vapour Generation Phenomenon in Subcooled Flow Boiling", Proceedings of the Engineering Foundation Conference on Convective Flow Boiling, Alberta, Canada.
18. Zeitoun, O., Shoukri, M. and Chatoorgoon, V. 1994 "Interfacial Correlations for Subcooled Water-Steam Flow in Vertical Conduits", CNS conference, Montreal.
19. Zeitoun, O., Shoukri, M. and Chatoorgoon, V. 1993 "Interfacial Area Measurements in Subcooled Liquid-Vapour Flow", Proceeding of National Conference of Heat Transfer, Atlanta.
20. Zeitoun, O. 1992 "Net Vapour Generation Point of Subcooled Boiling Flow" 17th CNA/CNS Student Conference, pp. 44-55.

Thesis and Reports:

Zeitoun, O. 1994 "Subcooled Flow Boiling and Condensation", Ph. D. Thesis, McMaster University, Canada.

Shoukri, M. and Zeitoun, O. 1991 "Correlations for boiling heat transfer around calandria tubes in CANDU reactors" Technical report prepared for: Mechanical research department, Ontario Hydro.

Zeitoun, O. 1988 "Convective Heat Transfer in the Presence of a Free Surface" M. Sc. Thesis, Alexandria University, Alexandria, Egypt.