

Prof. Abdalla Mohamed AlAmiri

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- Education**
- **Ph.D.** in Mechanical Engineering, Ohio State University, USA, June 1998
 - **M.Sc.** in Mechanical Engineering, Ohio State University, USA, June 1993
 - **B.Sc.** in Mechanical Engineering, United Arab Emirates University, June 1989

- Career Path**
- Academic Track:**
- Professor of Mechanical Engineering @ UAEU [2013-Present]
 - Associate Professor of Mechanical Engineering @ UAEU [2003-2013]
 - Assistant Professor of Mechanical Engineering @ UAEU [1998-2003]

Secondment Assignments from UAEU:

July 13 – July 14: Provost of Zayed University.

Aug 07 – Sept 11: Senior Advisor to the Minister of Education, Ministry of Education. Managed several key ministry initiatives:

- Head of policy & planning with direct reporting to the Minister
- Major contributor to drafting the Ministry of Education Strategic Plan 2010-2020 with a special recognition from the Minister
- Chairman of the National committee reform on Private Education
- General Ministry Coordinator with all central departments on the Key Performance Indicators
- Initiating the annual Global Education Forum in January 2008 and Chairing it since 2008 (Attended by over 4,000 participants annually)
- Initiated and supervised the largest repository of over 5,000 interactive learning objects in Arabic
- Member of the High Committee on National Curriculum.
- Initiating and developing guidelines for 'Green Public Schools' with first new school to open in Fall AY 12/13
- Initiating the Leadership program for Ministry dept directors in Oct 2008

Sept 06 – Aug 07: Sabbatical leave to the Biomedical Engineering department @ Michigan University, Ann Arbor, Michigan, USA.

Feb 05 – August 06: Seconded to ConocoPhillips Oil company as Operations Engineering Supervisor. Involved in various offshore projects including:

- Design & Installation of a Two-Phase separator
- Biocide treatment in water injection lines
- Management of Non-flowing hydrocarbon and water lines

- Technical Consultation**
- "Existing chiller plant modifications", conducted for Dubai Airport Free Zone Authority, August 2010.
 - "Concept development & Energy efficiency measures in the design of the Dubai Sports City Precinct central cooling plant," March 2010.

	• "Energy efficiency measures in the design of the district cooling plants of Dubai Int. City: Phases II & III," October 2008. • "Energy Conservation study for oil fields Asab / Bab / Bu Hasa & Ruwais Plant," conducted for GASCO, July 2008. • "Energy efficiency measures in the design of the district cooling plants of Dubai Maritime City," June 2008. • Technical Consultation to Dubai Electricity and Water Authority (DEWA) for feasibility of thermal storage and Combustion turbine inlet air cooling. • Several consultation studies were conducted for Sharjah Electricity and Water Authority (SEWA) including: Carbon Development Mechanism (CDM), a proposal for a building energy code and forming a district cooling company.
Teaching and Professional Experience	• Courses Taught: Physics and Engineering Applications I, Fundamentals of Engineering 1B, Fluid Mechanics Lab, Thermal Engineering Lab, Thermodynamics I, Thermodynamics II, Heat Transfer I, Power Stations, Thermofluid System Design & Analysis, Energy Management and senior graduation projects in thermo-fluid subjects.
Research Area	Heat Transfer Augmentation, Energy Management and Education Policy
Professional competency Improvement	• "Leadership in Higher Education: Senior Executive Program", 9-13 December, 2013, Oxford University, UK. • Policy Development Training, UK National School of Government in collaboration with UAE Prime Minister Office, 10-11 Nov, 2010, Dubai. • Developing an Implementation Strategy and Its Main prerequisites workshop, Prime Minister Office, April 2010, Dubai. • Strategic Planning Guide workshop, Ministry of Education, 23-24 December 2009, Dubai • ConocoPhillips 'Make Your Mark' workshop, March 2006, Dubai. • ConocoPhillips 'Engagement Excellence' workshop, Dec 2005, Norway. • "Facilities: Unlocking production and maximizing value", 25-28 September 2005, Dubai. • "Appraisal of Combustion Turbine Inlet Air Cooling Techniques in UAE", GE Gas Turbine Users, September 2005, Dubai. • Dupont Safety Leadership, June 2005, Dubai. • The Concept of Active Learning seminar, December 2003, Al-Ain. • Features of a Quality Program workshop, October 2003, Dubai. • Outcomes Focused Quality Systems seminar, October 2003, Dubai. • The Process of Institutional Audits workshop, October 2003, Dubai. • Participated in a retreat for academic chairs, September 2000, Al-Ain. • ASME Management Skills workshop, August 1999, Albuquerque, USA. • Teaching improvement workshop, Ohio State University, May 1998. • Leadership and Communication skills, Ohio State University, April 1998.
Funded Research and Activities	• 'Emirati Faculty Research Mobility Award', Funded by National Research Foundation, total fund: AED 50,000, AY 2012/2013. • Feasibility of an Evaporative-Cooled Condenser Unit for House Air Conditioning units in the UAE Environment, Funded by University SRC, AED 30,000, AY 2010/2011.

- Appraisal of the energy conservation opportunities in the UAE, Funded by University SRC, AED 30,000, AY 2004/2005.
- Investigating the flow and thermal behaviors inside a potline building, funded by DUBAL, AED 99,877, AY 2003/2004.
- Investigating the Energy and Solutal Characteristics in an Annulus Heat Exchanger Subjected to a Torsionally-Oscillating Rotating Wall, Funded by University SRC, AED 15,500, AY 2002/2003. Numerical simulation of drying chamber for food-industry applications, Funded by University SRC, AED 13,500, AY 2000/2001.
- Permeability assessment of vacuum infusion molding processes (PI: Dr. Adel Hammami), Funded by University SRC, AED 11,000, AY 1999/2000.
- Investigating the dynamic and thermal behaviors of porous systems, Funded by University SRC, AED 11,000, AY 1998/1999.

Achievements

- Most cited National researcher according to 'Google Scholar'.
- Founder and Chief contributor to the Dubai Global Energy Forum, which was held under the patronage of the UAE Prime Minister with 2,000 participants from 35 countries.
- Founder of the Global Education Forum and its General Chair for the First 4 cycles. The Forum is attended annually by over 4,000 participants from 30 countries and most of the regional ministers of education.
- Founder of the Emirates Energy Award (June 2006), which runs under the patronage of the HH the UAE Prime Minister.
- Chairman of the Emirates Energy Award (2006-Present) and Secretary General (2008-Present). Recognized three times by UAE prime Minister for my effort in promoting awareness on energy conservation and management.
- Secured a grant from Schlumberger for AED 5.5 millions in 2002.
- Established the First Industrial Chair in the UAE in the field of oil production in the Petroleum Engineering department in 2002 and led the effort on placing the College of the Schlumberger Ambassador program.
- Initiated the First interdisciplinary course offered under “Selected Topics” and titled: “Introduction to Aluminum Electrolysis and Production Technology” for CHEM & ME students in the 1st semester 02/03 in coordination with DUBAL and it is considered the first tailored course worldwide for senior undergraduate students in this field.
- Initiated the Scholarship Fund Program in the University. This included drafting the governing bylaws, the program guide and the contract agreement. The office is fully funded through the received funds.
- Networking with over 150 private companies for the Internship program and other College related programs. Also, have incorporated over 50 new well-reputed international companies in the College Industrial Training (Internship) program since 2000.

Honors and Awards

- 'Founding Member of the eduVision 2020 initiative' award, SIVCO, Bucharest, Romania, September 2011
- Best Technical Paper Award, Int. Gas Turbine Institute, Montreal, Canada, May 2007
- First Prize winner of “Al-Owais Award For Studies & Scientific Innovations” for ‘Best Research Paper on Engineering Applications in UAE’, June 2004.
- Region XIII nominee for the 2003 ASME Student Section Advisor Award

Principal Publications

- Selected to participate in the “2002 Professor Visit Schlumberger” Program, Paris, France, 19-24th, October 2002
- College Distinguished Community Service Award for AY 2002/2003
- Shiekh Rashid Award for Scientific Achievements, 1998
- Shiekh Rashid Award for Scientific Achievements, 1993
- **A. AlAmiri**, K. Khanafer, K. Vafai, Fluid-Structure interaction in a tissue during hyperthermia, *Num. Heat Transfer: Part (A)*, **66 (1)**, 1-16 (2014).
- **A. AlAmiri**, Fluid-Structure interaction analysis of pulsatile blood flow and heat transfer in living tissues during thermal therapy, *J Fluids Eng- Trans ASME*, **135 (4)**, 041103 (2013).
- **A. AlAmiri**, Implications of placing a porous block in a mixed convection heat transfer lid-driven cavity heated from below, *J. Porous Media*, **16 (4)**, 367–380 (2013).
- **A. AlAmiri**, The School education in UAE: ambitions, current status and challenges, ECSSR Publications, Chp One: 29-70, Oct 2012, Abu Dhabi, UAE.
- **A. AlAmiri** and K. Khanafer, Augmentation of heat rejection mechanism in a ventilated enclosure filled partially with a porous layer, *J. Porous Media*, **15(9)** 835-848 (2012).
- **A. AlAmiri** and K. Khanafer, Fluid–structure interaction analysis of mixed convection heat transfer in a lid-driven cavity with a flexible bottom wall, *Int. J. Heat Mass Transfer*, **54**, 3826-3836 (2011).
- K. Khanafer, **A. AlAmiri** and I. Pop, Fluid–structure interaction analysis of flow and heat transfer characteristics around a flexible microcantilever in a fluidic cell, *Int. J. Heat Mass Transfer*, **53**, 1646-1653 (2010).
- **A. AlAmiri**, K. Khanafer and I. Pop, Buoyancy-Induced Flow and Heat Transfer in a Partially Divided Square Enclosure, *Int. J. Heat Mass Transfer*, **52**, 3818-3828 (2009).
- K. Khanafer, **A. AlAmiri**, I. Pop and J. L. Bull, Flow and Heat Transfer in Biological Tissues: Application of Porous Media Theory, Emerging Topics in Heat and Mass Transfer in Porous Media – from Bioengineering and Microelectronics to Nanotechnology. *Series: Theory and Applications in Transport in Porous Media (TATP)*, Peter Vadasz (ed.), Springer-Science + Business Media BV (2008).
- **A. AlAmiri**, K. Khanafer and I. Pop, Steady-State Conjugate Natural Convection in a Fluid-Saturated Porous Cavity, *Int. J. Heat Mass Transfer*, **51**, 4260-4275 (2008).
- M. Zamzam and **A. Al-Amiri**, A Novel Free-Cooling Scheme for Combustion Turbine Inlet Air Cooling, *ASME J. Eng. for gas Turbine and Power*, **130**, 1771-1780 (2008).
- Khalil Khanafer, **A. AlAmiri** and Ioan Pop, Numerical Analysis of Natural Convection Heat Transfer in a Horizontal Annulus Partially Filled with a Fluid-Saturated Porous Substrate, *Int. J. Heat Mass Transfer*, **51**, 1613-1627 (2008).
- N. Abu-Sitta, K. Khanafer, K. Vafai and **A. Al-Amiri**, Combined Forced- and Natural-Convection Heat Transfer in Horizontally Counter Rotating Eccentric and Concentric Cylinders, *Num Heat Transfer: Part (A)*, **51**, 1167-1186 (2007).
- K. Khanafer, **A. Al-Amiri**, and I. Pop, Numerical Simulation of Unsteady Mixed Convection in a Driven Cavity Using an Externally Excited Sliding Lid, *European J. Mechanics- B/Fluids*, **26**, 669-687 (2007).
- **A. Al-Amiri**, K. Khanafer, J. Bull and I. Pop, Effect of Sinusoidal Wavy

Bottom Surface on Mixed Convection Heat Transfer in a Lid-Driven Cavity, *Int. J. Heat Mass Transfer*, **50**, 1771-1780 (2007).

- **A. Al-Amiri** and K. Khanafer, Numerical Simulation of Combined Thermal and Mass Transport in a Square Lid-Driven Cavity, *Int. J. Thermal Sci.*, **51**, 1167-1186 (2007).
- **A. Al-Amiri** and K. Khanafer, Numerical Simulation of Double-Diffusive Mixed Convection within a Rotating Horizontal Annulus, *Int. J. Thermal Sci.*, **45**, 567-578 (2006).
- **A. Al-Amiri** and K. Khanafer and M.F. Lightstone, Unsteady Numerical Simulation of Double Diffusive Convection Heat Transfer in a Pulsating Horizontal Heating Annulus, *Heat Mass Transfer*, **42**, 1007-1015 (2006).
- S. Khashan, **A. Al-Amiri** and I. Pop, Numerical Simulation of Natural Convection Heat Transfer in a Porous Cavity Heated From Below Using a Non-Darcian and Thermal Non-Equilibrium Model, *Int. J. Heat Mass Transfer*, **49**, 1039-1049 (2006).
- Haik, Y., Saghir Z., Chacha, M., **AlAmiri, A.**, Kazim A. Editors "Proceedings of the 2nd International Conference on Thermal Engineering, Theory and Applications," University Press, ISBN 9948-02-128-2 (2006).
- S. Khashan, **A. Al-Amiri** and M. Al-Nimr, Assessment of the Local Thermal Non-Equilibrium Condition in Developing Forced Convection Flows through Fluid-Saturated Porous Tubes, *Applied Thermal Engineering*, **25**, 1429-1445 (2005).
- **A. Al-Amiri** and M. Zamzam, Systematic Assessment of Combustion Turbine Inlet Air-Cooling Techniques, *ASME J. Eng. for gas Turbine and Power*, **127**, 159-169 (2005).
- **A. Al-Amiri**, Natural Convection in Porous Enclosures: The Application of the Two-Energy Equation Model, *Num. Heat Transfer: Part A*, **41(8)**, 817-834 (2002).
- **A. Al-Amiri**, Analysis of Momentum and Energy Transfer in a Lid-driven Cavity Filled with a Porous Medium, *Int. J. Heat Mass Transfer*, **43**, 3513-3527 (2000).
- Y. Wang, **A. Amiri** and K. Vafai, An experimental Investigation of the Melting Process in a rectangular Enclosure, *Int. J. Heat Mass Transfer*, **42**, 3659-3672 (1999).
- **A. Amiri** and K. Vafai, Transient Analysis of Incompressible Flows Through Porous Media, *Int. J. Heat Mass Transfer*, **41**, 4259-4279 (1998).
- K. Vafai and **A. Amiri**, Non-Darcian Effects in Confined Forced Convective Flows, *Transport Phenomena In Porous Media* (Eds. D. B. Ingham and I. Pop), 313-329, Pergamon, UK, 1998.
- **A. Amiri**, K. Vafai and T. M. Kuzay, Effects of Boundary Conditions on Non-Darcian Heat Transfer Through Porous Media and Experimental Comparisons, *Numerical Heat Transfer*, **27(A)**, 651-664 (1995).
- **A. Amiri** and K. Vafai, Analysis of Dispersion Effects and Non-Thermal Equilibrium, Non-Darcian, Variable Porosity Incompressible Flow Through Porous Media, *Int. J. Heat Mass Transfer*, **11**, 939-954 (1994).

Selected Books

- Y. Haik, Z., Saghir, M. Chacha, **A., AlAmiri** and A., Kazim Editors "Proceedings of the 2nd International Conference on Thermal Engineering, Theory and Applications," University Press, ISBN 9948-02-128-2, 2006.

**Conference
Papers and
Symposiums**

- **A. AlAmiri**, Energy Efficiency Policies and Regulations in UAE: Overview of Effort in Different Sectors , OPEC R&D Forum: Technology Challenges, Opportunities and Collaboration, Vienna, Austria, May 7 – 8, 2013.
- **A. AlAmiri** and K. Khanafer, Fluid-Structure interaction analysis of convective flow and heat transfer in channel-mounted heated obstacles, 6th Int. Conf. Thermal Engg: Theory & Applications, Istanbul, Turkey, May 29 – June 1, 2012.
- **A. AlAmiri**, The most important features of educational policy in the UAE and the challenges they face in the foreseeable future, 2nd ECSSR Education Conf., Abu Dhabi, Oct 4-5, 2011.
- **A. AlAmiri**, UAE Education Strategy and its Achievements in e-Education, 1st Int. Conf. EduVision 2020, Bucharest, Romania, Sep 16-17, 2011.
- **A. Al-Amiri**, Challenges of the Secondary Education: A General Perspective,, Secondary Education Symposium: Experiences and New Trends, Dubai, UAE, February 24, 2010.
- **A. Al-Amiri**, Buoyancy-Induced Flow and Heat Transfer in a Partially Divided Square Enclosure, 4th Int. Conf. Thermal Engg: Theory & Applications, Abu Dhabi, UAE, January 12-14, 2009.
- **A. Al-Amiri**, Education Reforms: The UAE Example, 5th Moving Young Minds Conference, London, UK, January 7-9, 2008
- M. Zamzam and **A. Al-Amiri**, A Novel Combustion Turbine Inlet Air Cooling System, ADIPEC-Society of Petroleum Engineering, Abu Dhabi, UAE, Nov 3-6, 2008
- M. Zamzam and **A. Al-Amiri**, A Novel Free-Cooling Scheme for Combustion Turbine Inlet Air Cooling, ASME Turbo Expo: Power for Land, Sea and Air, GTP-07-1093, Montreal, Canada, May 14-17, 2007.
- **A. Al-Amiri**, M. Zamzam, M. Chaker and C. Meher-Homji, *Application for Inlet Fogging for Power Augmentation of Mechanical Drive Turbines in the Oil and Gas Sectors*, ASME Turbo Expo: Power for Land, Sea and Air, Proc. of GT2006 – GT 2005-91054, Barcelona, Spain, May 8-11, 2006.
- **A. Al-Amiri** and N. Abu-Sitta, *Augmentation of Natural Convection Heat Transfer by a Rotating Cylinder Placed Inside an Enclosure*, 1st Int. Conf. Thermal Engg: Theory & Applications, Beirut, Lebanon, May 31-June 4, 2004.
- **A. Al-Amiri**, K. Khanafer, M.F. Lightstone, Unsteady Numerical Simulation of Double-Diffusive Convection Heat Transfer in a Pulsating Horizontal Annulus, 1st Int. Conf. Thermal Engg: Theory & Applications, Beirut, Lebanon. May 31-June 4, 2004.
- **A. Al-Amiri** and E. Bastaki, *A Modern Perspective on Reforming a Capstone Design Course*, ASEE/WFEO International Colloquium, Nashville, Tennessee, June 22-23, 2003.
- **A. Al-Amiri** and K. Khanafer, *Unsteady Solution of Mixed Convection Flow in a Torsionally-oscillating Square Enclosure Heated From Below*, 3rd Int. Conference on Computational Heat and Mass Transfer, Banff, Canada, May 26-30, 2003.
- **A. Al-Amiri**, *Numerical Simulation of Drying Chamber For Food-Industry Applications*, 4th Annual UAE university Research Conference, ENG (180-185), Al-Ain, UAE, April 27-29, 2003.
- M. Zamzam and **A. Al-Amiri**, *Feasibility of Combustion Turbine Inlet Air-Cooling Systems In The Arabian Gulf Region*, IJPGC2002-26057, 2002 International Joint Power Generation Conference, June 24-26, 2002, Phoenix, Arizona.

- **A. Al-Amiri**, *Economic Assessment of Combustion Turbine Inlet Air-Cooling Systems*, The Second symposium on Scientific Research Outlook in the Arab World, 24-27 March, 2002, Sharjah, UAE.
- R. Almehaideb and **A. Al-Amiri**, *Establishing a Center for Exchanging Student Trainees*, 10th GCC Deans of Engineering Meeting, January 2002, Jeddah, K.S.A.
- **A. Al-Amiri** and Khalil Khanafer, *Mixed Convection heat transfer in a lid-driven porous cavity heated from below*, NHTC2001-20170, 35th National heat Transfer Conference, 10-12 June, 2001, Anaheim, California.
- R. Almehaideb and **A. Al-Amiri**, *Industrial Training in GCC Colleges of Engineering, Architecture & Planning, and Computers - Structure and Scope for Collaboration*, 9th GCC Deans of Engineering Meeting, May 2001, Al-Ain, UAE.
- **A. Al-Amiri**, Numerical Simulation of Buoyancy Driven Flows in a Fluid-Saturated Porous Enclosure, Advanced Computing Technology Symposium, March 2000, Abu Dhabi, UAE.

Seminars / Presentations

- "Winning Employee Loyalty", Ajman 1st Corporate Quality Conference, UAE, Dec, 2010.
- "Post Basic Education; Secondary Development and Diversifying Paths", 7th Conference for the Arab Education Ministers, Muscat, Oman, March 7, 2010.
- "Overview of Secondary Education Challenges", Secondary Education Symposium: Reality and Modern Trends, Dubai, February 24, 2010.
- "Energy Saving: A regional Perspective", Architecture & Daylight Conf., September 29, 2009, Dubai.
- "Overview of Power Supply & Demand in GCC", The 2nd Knowledge Forum: Energy Supply & Demand Balance, May 7, 2009, Sharjah.
- "Learners Outcomes in the Field of Citizenship, School Life Expectancy and Equal Opportunity", Ministry of Education Workshop on Strategy, 25 Nov 2009, Ajman, UAE.
- "Higher Education and Community Service in the of Field Knowledge", Fourth National Cultural Symposium: Education as a Base for Culture, 13 Nov 2009, AlAin, UAE.
- Third School of the Future (SOF) Summit, 30th Oct – 1st Nov 2007, Helsinki, Finland.
- Third Ministerial Meeting on Education of the Broader Middle East and North Africa (BMENA) countries and the Group of Eight (G8) on 21-22 November 2007, Bonn, Germany.
- First Government Leaders Forum Arabia, 28-29 January 2008, Abu Dhabi
- Fourth School of the Future (SOF) World Summit, Dec 1-4, 2008, Seattle Washington, USA.
- "The UAE K-12 Education Example", Moving Young Minds, 7-9 Jan 2008, London, UK.
- "Appraisal of Combustion Turbine Inlet Air Cooling Techniques in UAE", GE Gas Turbine Users, September 2005, Dubai.
- Organized a workshop on "Turbomachinery: Fundamentals, Applications and Diagnostics" in coordination with ADCO, February 2005.