





- الاسم الكامل للاستاذ باللغة العربية: أ.د. إحسان يحيى حسين خلف

 - ♦ ماجستير في الهندسة الميكانيكية / موائع وحراريات
 - البريد الالكتروني الرسمي: dihsan@uobaghdad.edu.iq
 - الدرجة العلمية: أستاذ
 - الاسم المستخدم بحساب Google Scholar.

 $\underline{https://scholar.google.com/citations?user=72kdOyIAAAAJ\&hl=en\&citsig=AMD79oqyMRorV6Z9VrSS}\\OwrHs4XN6X4N7w$

- https://www.researchgate.net/profile/Ihsan-Hussain :Research Gate الاسم المستخدم بحساب
 - الاتجاهات البحثية:
 - (Heat Transfer) انتقال الحرارة
 - 2. ميكانيك الموائع (Fluid Mechanics
 - 3. ديناميك الغازات (Gas Dynamics
 - 4. الديناميكا الهوائية (Aerodynamics)
 - 5. الدفع النفاث (Jet Propulsion
 - 6. ديناميك المانعات العددية (Computational Fluid Dynamics CFD)

• الابحاث المنشورة

- (1) Hussain, I.Y., "Computational and Experimental Investigation of Three-Dimensional Turbulent Boundary-Layer", M.Sc. Thesis, University of Baghdad, College of Engr., Dept. of Mech. Engr., 1989.
- (2) Hussain, I.Y., "Three-Dimensional Compressible Wake Analysis with Experimental Verifications for an Isolated Rotating Bi-Elliptic Circular Dish", Ph.D. Thesis, University of Baghdad, College of Engr., Dept. of Mech. Engr., 1997.
- (3) Dr. M. Al-Drubi and I.Y.Hussain,"Three-Dimensional Turbulent Boundary-Layer: An Integral Algorithm and Experimental Verification", Engineering and Technology, Vol.10, No.3, 1991, p.p. 149-168.
- (4) I.Y.Hussain,"Preliminary Design Calculations for Axial Flow Turbines and Compressors",1993, (Classified).
- (5) I.Y.Hussain,"Theoretical Investigation for the Influence of the Liquid Metal and Gas Flow on Performance of Confined Atomization Nozzle", 1993, (Classified).





- (6) Dr.M.S.Rijab, I.Y.Hussain and S.A.Muhsen,"Computational Investigation of Laminar Flow and Heat Transfer in Equilateral Triangular duct", Engineering and Technology, Vol.15, No.9, 1996, p.p.25-35.
- (7) I.Y.Hussain,"A Finite Element Algorithm for Laminar Forced Convection in Equilateral Triangular Duct", Journal of Engineering, Vol.5, No.1, March 1999, p.p. 127-137.
- (8) Dr.M.I.Al-Druby and I.Y.Hussain,"Five-Hole Pressure Probe for Low Angle Flow Measurements: Theory and Calibration", Journal of Engineering, Vol.5, No.3, September 1999, p.p. 39-51.
- (9) Dr. I.Y. Hussain,"Boundary Element Analysis of Fluid Flow and Heat Transfer in Equilateral Triangular Duct" Journal of Engineering, Vol.6, No.3., September 2000, p.p. 21-35.
- (10) Dr. Ihsan Y. Hussain, Dr.Ibrahim H. Ismail and Shwan F. Mahmood, "Experimental Investigation of the Wakes of a Compressor Cascade", Proc. Of the MCE 3rd Eng. Sci. Con., 2000, p.p. 452-473.
- (11) Dr. Ihsan Y. Hussain, Dr. Abdul-Karim A.Hassan and Ahmad Abdul-Ameer Jasim,"Three-dimensional Boundary-Layer Development on a Bi-Elliptic Circular Dish", Journal of Engineering, Vol.7, No.2, 2001, p.p. 131-166.
- (12) Ihsan Y. Hussain, Abdul Kareem A.Wahab and Amjad L. Mutaib,"Three-Dimensional Wake Flow of a Swept Wing: An Integral Algorithm and Experimental Verifications", Journal of Babylon University, Vol.7, No.5, March 2002, p.p. 1399-1413.
- د.احسان يحيي حسين،د.اخلاص محمد فياض، عصام فخري محمد "دراسة عددية لانتقال الحرارة (13) بالحمل الحر من اقراص و حلقات وجهها المسخن نحو الاسفل بفيض حراري ثابت"،مجلة الهندسة و التكنولوحيا،العدد 10،المجلد2،109،ص1124-1109
 - Dr. Ihsan Y. Hussain, Dr. Ikhlas M. Fayad and Isam F. Mohammad "Numerical Study of Natural Convection Heat Transfer from Downward Facing Heated Discs and Rings at Constant Heat Flux", Engineering and Technology Journal, Vol.21, No.10, p.p. 1109-1124, 2002
- (14) Dr. Arkan K. Al-Taei, Dr. Ihsan Y. Hussain and Shakir J. Jasim Al-Saeed,"Transient Performance of a Single-Spool Turbojet Engine", Journal of Engineering, Vol.9, No.1, March 2003, p.p. 137-149.
- (15) Dr. Ihsan Y. Hussain, Dr. Ikhlas M. Fayad and Ayad K. Hasan,"Prediction of Three-Dimensional Natural Convection From Heated Disks and Rings at





- Constant Temperature", Engineering and Technology Journal, Vol.22, No.5, 2003, p.p. 229-248.
- (16) Dr. Ihsan Y. Hussain, Dr. Ikhlas M. Fayad and Jasim M. Abdul-Lateef,"Measurement of Three Dimensional Natural Convection Heat Transfer From Discs and Rings Facing Upward and Downward at Constant Temperature", Engineering and Technology Journal, Vol.22, No.5, 2003, p.p. 249-260.
- (17) Dr. Imad. A. Hussain, Dr. Ihsan Y. Hussain and Nbras H. Ghaib,"Inverse Estimation of Heat Transfer Coefficients for the Axisymmetrical Coordinates Using the Finite and Boundary Element Methods", Journal of Engineering, Vol.9, No.4, December 2003, p.p. 481-492.
- (18) Mr. Ahmed T. Mustafa, Dr. Abdul Salam K. Darwish and Dr. Ihsan Y. Hussain, ."Computational and Experimental Investigation of the Aerodynamic Characteristics for a Forward Swept Wing Aircraft", 5th Sc. Conf. Of the College Eng. Univ. of Baghdad, 2003, p.p. 387-407.
- د.احسان يحيى حسين، اياد محمود سلمان "انتقال الحرارة بالحمل القسري للجريان المضطرب غير تام (19) التطور خلال مجرى حلقي متمركز"، مجلة اتحاد الجامعات العربية، المجلد 10، العدد 2، ص 69 _
 - Dr. Ihsan Y. Hussain and Ayad M. Salman, "Turbulent Forced Convection Heat Transfer Through Concentric Annuli", Arab Universities Councils Union Journal, Vol.10, No.2, p.p. 69-103, 2003
- (20) Karima E. Amori, Dr. Ihsan Y. Hussain and Dr. Imad A. Hussain,"Boundary Integral Analysis of Potential Flow Past Axisymmetric Body Using Treftz Method", Journal of Engineering, Vol. 10, No. 2, 2004, p.p. 155-165
- (21) Dr. Arkan K. Al-Taei, Dr. Ihsan Y. Hussain and Shaker J. Al-Saeed, "Steady-State and Transient Performance of a Twin-Spool Turbofan Engine", The Iraqi Journal for Mechanical and Materials Engineering, Vol.4, No.1, 2004, p.p. 1-15
- (22) Dr. Imad A. Hussain, Dr. Ihsan Y. Hussain and Nbras G. Ghaib, "Solution of the Inverse Conduction Heat Transfer for the Axisymmetrical Coordinates Using the Finite and Boundary Element Methods", The Iraqi Journal for Mechanical and Materials Engineering, Vol.4, No.1, 2004, p.p. 30-39





- د.أحسان يحيى حسين، د.اخلاص محمد فياض، احمد هشام احمد " انتقال الحرارة بالحمل الحر محمد فياض، احمد هشام احمد " انتقال الحراري المجلة الهندسة و التكنولوجيا، العدد 6، المجلد23، 2006 317، 2004
 - Dr. Ihsan Y. Hussain, Dr. Ikhlas M. Fayad and Ahmed H. Ahmed "Natural Convection Heat Transfer From Upward Facing Heated Discs and Rings at Constant Heat Flux", Engineering and Technology Journal, Vol.23, No.6, p.p. 306-317, 2004
- (24) Dr.Ihsan Y. Hussain, Dr. Manhal M. Awda and Khalil M. Khalil, "Thermal Analysis of an Octagonal Shell Earth Orbiting Body", Journal of Engineering, Vol. 11, No. 1, March 2005, p.p. 175-192
- (25) Dr. Ihsan Y. Hussain, "An Investigation of Liquid Metal and Gas Flow Characteristics in Confined Atomization Nozzle", Journal of Engineering, Vol.11, No.2, June 2005, p.p. 377-391
- د.احسان يحيى حسين، "تداخل الجريان بين الطبقة المتاخمة على لوح مستوي و اعقاب جنيح"، مقبول (26) للنشر في مجلة (الهندسة)، الامر (293 في 2005/6/23
 - Dr. Ihsan Y. Hussain, "Flow Interaction Between the Boundary Layer on a Flat Plate and an Airfoil Wake", Accepted for Publication in Journal of Engineering, (Order No. 293 in 23/6/2005)
- (27) Dr. Ihsan Y. Hussain, Dr. Khalid A. Ismaeel and Akeel A. Mohammed, "Experimental Investigation of Laminar Mixed Convection in an Inclined Annulus" Journal of Engineering, Vol.12 No.1, March 2006, p.p. 181 198
- (28) Dr. Ihsan Y. Hussain, "Numerical Simulation of Heat Transfer Problem in Hot and Cold Rolling Process", Journal of Engineering, Vol.13, No.3, September 2006, p.p. 1738-1760
- (29) Dr. Ihsan Y. Hussain and Hayder S. Abdullah, "Optimization of Thermal Layout Design of Electronic Equipments on the Printed Circuit Board" Journal of Engineering, Vol.13 No.3, September 2006, p.p. 757 773
- (30) Dr. Ihsan Y. Hussain, Ali N. Ibrahim and Ayad M. Salman, "Developing Turbulent Flow and Heat Transfer Through Rectangular Duct Cross Section", The Iraqi Journal for Mechanical and Materials Engineering, Vol.6, No.1, 2006, p.p. 1-20
- (31) Dr. Ihsan Y. Hussain, Adil A. Mohammed and Ayad M. Salman, "Developing Compressible Turbulent Flow and Heat Transfer in Circular





- Tube with Uniform Injection or Suction", Journal of Engineering, Vol.13 No.3, September 2006, p.p. 1602 1621
- (32) Dr. Ihsan Y. Hussain and Salah S. Abdul-Kareem, "Evaluation of Temperature Distribution and Fluid Flow in Fusion Welding Process" Journal of Engineering, Vol.13 No.2, June 2007, p.p. 1446 1462
- (33) Dr. Ihsan Y. Hussain and Shwan F. Mahnood, "Flow Computation Through the Passage Bounded by the Dish and Supports of the AWACS" Journal of Engineering, Vol.13 No.1, March 2007, p.p. 1331 1352
- (34) Dr.Ihsan Y. Hussain, Dr. Abdul-Wahab A. Taha and Ayser M. Fleh, "
 Unsteady Hydrodynamic and Thermal Boundary Layers Over a Flat Plate
 with Uniform Injection or Suction ""Journal of Engineering, Vol.14 No.2,
 June 2008, p.p.2553 2569
- (35) Dr. M. I. Al-Druby, Dr.Ihsan Y. Hussain, and Ruqeaa I. Muhsen, "Preliminary Design of Multi-Stage Axial Compressors", Journal of Engineering, Vol.14 No.2, June 2008, p.p.2534-2551
- (36) Dr.Ihsan Y. Hussain, Dr. Ikhlas M. Fayed, Hanaa Abdul-Hadi and Sahira Hassan, "Experimental Study of Fins Perforation Effect on Thermal Performance of Hellically Finned Tubes", Journal of Engineering, Vol.14 No.2, June 2008, p.p. 1 17
- (37) Prof. Dr. Ihsan Y. Hussain, Dr. Akeel A. Mohammed, "Combined Free And Forced Convection Of Air In A Vertical Annulus With Uniformly Heated Rotating Inner Cylinder", Proceedings of the 6th Scientific Engineering Conference of the College Of Engineering University Of Baghdad, 2009, P.P. 1 18
- (38) Prof. Dr. Ihsan Y. Hussain, Dr. Akeel A. Mohammed, "Laminar Combined Convection In The Fully Developed Region Of Concentric Inclined Annulus With Uniformly Heated Inner Cylinder", Proceedings Of The 6th Scientific Engineering Conference Of The College Of Engineering University Of Baghdad, 2009, P.P. 19 35
- (39) Dr. Ihsan Y. Hussain and Ahmed W. Mustafa, "Investigation of the Effect of the Wake Generated by Rotor Blades on the Flow Through Stator Passage for Low Pressure Turbine" Journal of Engineering, Vol.16 No.2, June 2010, p.p. 5098 5115





- (40) Dr.Ihsan Y. Hussain, and Taif H. Saleh, "Hydrodynamic and Thermal Two Dimensional Boundary Layers Development Between Rotating Turbine Blades", Journal of Engineering, Vol.16 No.2, March 2010, p.p.4858-4876
- (41) Dr.Ihsan Y. Hussain, Nizar J. Ibrahim, "An Investigation into Three Dimensional Turbulent Flow of Newtonian Liquid in Stirred Tanks Mixers", Journal of Engineering, Vol.16 No.1, January 2010, p.p. 4653 4671
- (42) Dr.Ihsan Y. Hussain, Mohammed M. Saleh, "Natural Convection in Confined Cylindrical Enclosure of Porous Media with Constant and Periodic Wall Temperature Boundary Conditions", Journal of Engineering, Vol.17 No.2, April 2011, p.p. 347 365
- (43) Prof. Dr. Ihsan Y. Hussain, Maki H. Majeed, Anmar H. Ali, Wail S. Sarsam, "Design, Construction And Testing Of Low Speed Wind Tunnel With Its Measurement And Inspection Devices", Journal of Engineering, Vol.17, No.6, December 2011, p.p. 1550 1566
- (44) Prof. Dr. Ihsan Y. Hussain, Dr. Salah Sabeeh Abed-Alkareem, "Experimental Investigation of Temperature Distribution in Arc Fusion Welding", The Iraqi Journal for Mechanical and Materials Engineering, Vol. 12, No. 2, 2012, p.p. 411 431
- (45) Prof. Dr. Ihsan Y. Hussain, Naseem K. Ali, "Natural Convection Heat Transfer from a Plane Wall to Thermally Stratified Environment", Journal of Engineering, Vol. 18, No. 2, February 2012, p.p. 223 238
- (46) Prof. Dr. Ihsan Y. Hussain, Mohammed A. Nima, "Experimental Investigation on the Heat Transfer with Phase Change in a Vertical and Inclined Cylindrical Enclosure of Porous Media", Proceedings of The First National Conference for Engineering Sciences FNCES 12, Alnahrain University / college of Engineering, 7 8 November 2012, p.p. 245 251
- (47) Prof. Dr. Ihsan Y. Hussain, Mohammed A. Nima, "Numerical Study of Mixed Convection with Phase Change in a Vertical Cylindrical Enclosure of Porous Media", Proceedings of The First National Conference for Engineering Sciences FNCES 12, Alnahrain University / college of Engineering, 7 8 November 2012, p.p. 204 211
- (48) Prof. Dr. Ihsan Y. Hussain, Lect. Anmar Hamid Ali, "Multi-Element Airfoil Characteristics in Ground Effect Using Panel Method with Wake Relaxation", Proceedings of the 3rd International Scientific Conference,





- Foundation of Technical Education F.T.E, 20 21 February 2013, p.p. 376 391
- (49) Prof. Dr. Ihsan Y. Hussain, Aya A. Yaseen, "An Investigation into Forced Convection Heat Transfer through Porous Media", International Journal of Computer Applications (IJCA), Vol. 66, No. 1, p.p. 15 22, March 15, 2013
- (50) Prof. Dr. Ihsan Y. Hussain, Basim K. Raheem, "Natural Convection Heat Transfer from a Plane Wall to Thermally Stratified Porous Media", International Journal of Computer Applications (IJCA), Vol. 65, No. 1, p.p. 42 49, March 15, 2013
- (51) Prof. Dr. Ihsan Y. Hussain, Nasr A. Jabbar, "Natural Convection Heat Transfer in Cylindrical Enclosure of Porous Media with Periodic Boundary Conditions", International Journal of Computer Applications (IJCA), Vol. 65, No. 9, p.p. 43 50, March 15, 2013
- (52) Prof. Dr. Ihsan Y. Hussain, Asst. Prof. Dr. Najim Abid Jassim, Basim Kadum Abbas, "Theoretical Study of Three Phase Direct-Contact Heat Transfer with Gas Hydrate Formation", Journal of Engineering, Vol.19, No. 7, July 2013, p.p. 923 932
- (53) Prof. Dr. Ihsan Y. Hussain, Asst. Prof. Dr. Karima E. Amori, Dheya G. Mutasher, "Experimental Investigation Utilizing Thermal Image Technique to the Heat Transfer Enhansement Using Oscillated Fins", Journal of Engineering, Vol.19, No. 2, February 2013, p.p. 280 297
- (54) Prof. Dr. Ihsan Y. Hussain, Asst. Prof. Dr. Karima E. Amori, Dheya G. Mutasher, "An Investigation into Heat Transfer Enhansement by Using Oscillated Fins", Journal of Engineering, Vol.19, No. 1, January 2013, p.p. 63 81
- (55) Prof. Dr. Ihsan Y. Hussain, Lec. Iman Q. Abdulhussein, "Experimental Reviewed Self-Assesment Report, Mechanical Engineering Program ME BU/ABET", 4th Annual Conference for Quality Assurance and Academic Accredation, University of Kufa, 2-3 April 2013
- (56) Prof. Dr. Ihsan Y. Hussain, Luma F. Ali, "Mixed Convection in Square Cavity Filled with Porous Medium with Heated Bottom Wall", International Journal of Computer Applications (IJCA), Vol. 74, No. 6, p.p. 38 45, July 26, 2013





- (57) Prof. Dr. Ihsan Y. Hussain, Prof. Dr. Abdulhassan A. Karamallah, Dr. Dhia Al-Deen H. Alwan, "Experimental Study of Natural Convection Heat Transfer in Confined Porous Media Heated from Side", Journal of Engineering, Vol.19, No. 8, August 2013, p.p. 952 969
- (58) Prof. Dr. Ihsan Y. Hussain, Luma F. Ali, "Mixed Convection in Square Cavity Filled with Porous Medium with Bottom Wall Periodic Boundary Condition", Journal of Engineering, Vol.20, No. 4, p.p. 99-119, April 2014
- (59) Prof. Dr. Ihsan Y. Hussain, Raed G. Saihood, "Convection Heat Transfer in Horizontal Annulus Porous Media with Rotating Outer Cylinder", 1st Post Graduate Students Conference, Alnahrain University / college of Engineering, 4 5 December 2013
- (60) Prof. Dr. Ihsan Y. Hussain, Dr. Mohammed A. Nima, Ali H. Lafta, "Numerical Investigation of Mixed Convective Boiling Heat Transfer in a Metal Foam - Filled Cylindrical Enclosure", 1st Post – Graduate Students Conference, Alnahrain University / college of Engineering, 4 – 5 December 2013
- (61) Prof. Dr. Ihsan Y. Hussain, Lect. Anmar Hamid Ali, "Testing and Commissioning of a Low Speed Wind Tunnel (LSWT) Test Section", Journal of Engineering, Vol. 20, No. 11, p.p. 106-125, November 2014
- (62) Prof. Dr. Ihsan Y. Hussain, Mohammed Y. Shakir, "An Investigation of Hydraulic and Thermal Performance of Metal Foam Filter", Journal of Arab Universities Union for Engineering Studies and Researches, Vol. 23, No. 1, p.p. 115-139, 2016
- (63) Prof. Dr. Ihsan Y. Hussain, Asst. Prof. Dr. Karima E. Amori, Dheya G. Mutasher, "Theoretical and Experimental Investigation of Heat Transfer Enhancement for Base of Fins by Using the Oscillating Fins", Babylon First International Engineering Conference, College of Engineering University of Babylon, 24-25 December 2015.
- (64) Prof. Dr. Ihsan Y. Hussain, Mustafa S. Abood, "Aerodynamic Characteristics of CLARK-Y Smoothed Inverted Wing with Ground Effects", International Journal of Computer Applications (IJCA), Vol. 136, No. 7, p.p. 42 50, February 2016
- (65) Prof. Dr. Ihsan Y. Hussain, Mustafa S. Abood, "Experimental Study of CLARK-Y Smoothed Inverted Wing with Ground Effects", International





- Journal of Computer Applications (IJCA), Vol. 147, No. 1, p.p. 45 54, August 2016
- (66) Prof. Dr. Ihsan Y. Hussain, Marwah Abdulkareem Jasim, "Thermal Performance Enhancement of Phase Change Materials (PCMs) by Using Metal Foams", Al-Nahrain Journal for Engineering Sciences (NJES), Vol. 20, No. 1, 2017, p.p. 235-249
- (67) Prof. Dr. Ihsan Y. Hussain, Zaid A. Hussain, "Effect of Rotation on Forced Convection Heat Transfer in Porous Horizontal Annulus", 2nd Post Graduate Students Conference, Alnahrain University / College of Engineering, 4 October 2017
- (68) Prof. Dr. Ihsan Y. Hussain, Saad M. Faris, "Aerodynamic Performance of Peugeot 405 Car Model", 2nd Post Graduate Students Conference, Alnahrain University / College of Engineering, 4 October 2017
- (69) Naseem K. Ali, Prof. Dr. Ihsan Y. Hussain, "Two-Dimensional Natural Convection Heat Transfer from a Heated Plate Immersed in a Thermally Stratified Medium: Numerical and Experimental Study", International Journal of Computer Applications (IJCA), Vol. 179, No. 2, p.p. 1 8, December 2017
- (70) Hiba A. Hasan, Ihsan Y. Hussain, "Theoretical Formulation and Numerical Simulation of Thermal Performance Enhancement for Cascade Thermal Energy Storage System", 2nd International Conference on Engineering Sciences ICES, University of Kerbalaa, College of Engineering, 26-27 March 2018, IOP Conf. Series: Materials Science and Engineering 433 (2018) 012044 doi:10.1088/1757-899X/433/1/012044
- (71) Oday I. Abdullah, Mahir H. Majeed, and Ihsan Y. Hussain, "Effect of the Frictional Facing Thickness on the Heat Generated in the Dry Friction Clutches", 2nd International Conference on Engineering Sciences ICES, University of Kerbalaa, College of Engineering, 26-27 March 2018, IOP Conf. Series: Materials Science and Engineering 433 (2018) 012044 doi:10.1088/1757-899X/433/1/012044
- (72) Nasr A. Jabbar, M.J. ALshukri, Wakkas Ali Rasheed, Ihsan Y. Hussain, "Numerical Investigation of New Cooling Method for Clinker Flow in Parallel with Air flow at Different Height Ratios", International Journal of





- Mechanical & Mechatronics Engineering IJMME-IJENS, Vol. 18 No. 03 June 2018, p.p. 1-17, 180403-7272-IJMME-IJENS©June 2018 IJENS
- (73) Hiba A. Hasan and Ihsan Y. Hussain, "EXPERIMENTAL INVESTIGATION OF THERMAL PERFORMANCE ENHANCEMENT OF CASCADE THERMAL ENERGY STORAGE SYSTEM BY USING METAL FOAM", International Journal of Mechanical Engineering and Technology (IJMET), Volume 9, Issue 9, September 2018, pp. 1537–1549, Article ID: IJMET_09_09_168, ISSN Print: 0976-6340 and ISSN Online: 0976-6359
- (74) Jenan S. Sherza, Ihsan Y. Hussain, Oday I. Abdullah, "Heat Flux in Friction Clutch with Time Dependent Torque and Angular Velocity", International Conference on Advanced Science and Engineering (ICOASE), Kurdistan Region, Iraq, 978-1-5386-6696-8/18/\$31.00 ©2018 IEEE, p.p. 474-478
- (75) Maha H. Kareem, Dr. Ihsan Y. Hussain, Dr. Nabeel H. Hadi, "Thermal Investigation of Brake Pad Performance Using a Full-Scale Brake Dynamometer", International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS Vol:18 No:05, pp. 11-20, 180403-7272-IJMME-IJENS © October 2018 IJENS
- (76) Hiba A. Hasan, Dr. Ihsan Y. Hussain, "Simulation and Testing of Thermal Performance Enhancement for Cascade Thermal Energy Storage System by Using Metal Foam", International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS Vol:18 No:05, pp. 106-116, 180403-7272-IJMME-IJENS © October 2018 IJENS
- (77) Ali Samir, Ihsan Y. Hussain, "Simulation of Natural Convection Heat Transfer for Refrigerant R134a Flow in a Metal Foam Filled Vertical Tube", Case Studies in Thermal Engineering, 13(2019)100390, pp. 1-14, January-14/2019, https://doi.org/10.1016/j.csite.2019.100390
- (78) Oday Abdullah 1, Josef Schlattmann, Ihsan Y. Hussain, Wassan Abd Al-Sahb, "Thermal Stress Analysis of the Multi-disc Friction Clutches", Jurnal Tribologi 20 (2019) 114-124
- (79) Ali Samir, Ihsan Y. Hussain, "Investigation of Forced Convection Boiling Heat Transfer for R-134a Flow in a Vertical Tube", International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS Vol.19 No. 03, pp. 96-111, June/2019, 191303-2828-IJMME-IJENS © June 2019 IJENS





- (80) Hiba Mudhafar Hashim, Ihsan Y. Hussain, "Natural Convection Cooling of PCB Equipped with Perforated Fins Heat Sink including Inclination and Vibration Effects", Journal of Mechanics of Continua and Mathematical Sciences, www.journalimcms.org, Vol. 14 No. 5, pp. 62-77, September-October/2019, http://doi.org/10.26782/jmcms.2019.10.00006
- (81) Ali Samir, Ihsan Y. Hussain, "Experimental Investigation of Convective Boiling Heat Transfer for R-134a Flow in Metal Foam Filled Vertical Tube", Journal of Mechanics of Continua and Mathematical Sciences, www.journalimcms.org, Vol. 14 No. 6, pp. 168-189, December/2019, https://doi.org/10.26782/jmcms.2019.12.00014
- (82) Josef Schlattmann, Oday I. Abdullah, Ihsan Y. Hussain, Hazim U. Jamali and Amjad Al-Hamood, "Thermoelastic Behavior of Dry Friction Clutches with Constant Heat Generation", e-Proceedings of International Conference on Advancements in Mechanical Engineering (ICAME 2020) Aliah University, Kolkata 16-18 January 2020
- (83) Hiba Mudhafar Hashim, Ihsan Y. Hussain, "Forced Convection Cooling of Electronic Equipment with Heat Sink including Inclination and Vibration Effects", Journal of Mechanics of Continua and Mathematical Sciences, www.journalimcms.org, Vol. 15 No. 4, pp. 197-213, April/2020, https://doi.org/10.26782/jmcms.2020.04.00016
- (84) Alaa A. Ghulam, Ihsan Y. Hussain, "Performance Enhancements of Phase Change Material (PCM) Cascade Thermal Energy Storage System by Using Metal Foam", Journal of Mechanics of Continua and Mathematical Sciences, www.journalimcms.org, Vol. 15 No. 5, pp. 159-173, May-/2020, https://doi.org/10.26782/jmcms.2020.05.00014
- (85) Hiba A. Hasan, Ihsan Y. Hussain, "Numerical Investigation of Thermal Performance Enhancements for Discharging Process of Cascade Thermal Energy Storage System by Using Metal Foam", International Journal of Renewable Energy and Engineering Research, Vol 1, No 1, pp. 1-9, (2020)
- (86) Nasr A. Jabbar, Ihsan Y. Hussain1, Oday I. Abdullah, "Thermal and thermoelastic problems in dry friction clutch: A comprehensive review", Heat Transfer, Wiley, DOI: 10.1002/htj.22257





الاشراف على رسائل الماجستير

- (1) "Computational and Experimental Investigation of the Three-Dimensional Wake Flow of a Swept Wing", Amjad Lafta Mutayb, Mech. Engr. Dept., University of Babylon, 1999
- (2) "Parametric Investigation of the Wakes of a Compressor cascade Blades", Shwan Faraj Mahmood, Mech. Engr. Dept., University of Baghdad, 2000
- (3) "Boundary Layer Development on a Rotating Bi-Elliptic Circular Dish", Ahmed Abdul-Ameer Jasim, Mech. Engr. Dept., University of Baghdad, 2001
- (4) "Natural Convection Heat Transfer from Discs and Rings with Different Inclination Angles at Constant Heat Flux", Ahmed Hesham Ahmed, Mech. Engr. Dept., University of Technology, 2001, (Thesis in Arabic)
- (5) "Numerical and Experimental Study of Natural Convection Heat Transfer from Horizontal Discs and Rings at Constant Wall Temperature", Ahmed Waheed Mustafa, Mech. Engr. Dept., University of Technology, 2001, (Thesis in Arabic)
- (6) "Modeling of Gas Turbine Transient Operation for Engine Control", Shakir Jawad Jasim, Mech. Engr. Dept., University of Baghdad, 2001
- (7) "Finite Element and Boundary Element Study of Conduction Heat Transfer with Special Application to the Rocket Engine Shell", Nbras Hussain Ghaib, Mech. Engr. Dept., University of Baghdad, 2001
- (8) "Numerical and Experimental Study of Three-Dimensional Natural Convection Heat Transfer from Discs and Rings at Constant Heat Flux", Issam Fakhri Mohammed, Mech. Engr. Dept., University of Technology, 2002, (Thesis in Arabic)
- (9) "Measurements of Three-Dimensional Natural Convection Heat Transfer from Discs and Rings Facing Upward and Downward at Constant Temperature", Jasim Mohammad Abdul-Lateef, Mech. Engr. Dept., University of Baghdad, 2002
- (10) "Prediction of Three-Dimensional Natural Convection from Heated Discs and Rings at Constant Temperature", Ayad Kadhum Hassan, Mech. Engr. Dept., University of Baghdad, 2002
- (11) "Aerodynamic Characteristics of Wing-Canard Configuration of Forward Swept Fighter", Ahmed Tawfeeq Mustafa, Mech. Engr. Dept., University of Baghdad, 2002





- (12) "Parametric Investigation of Thermal and Hydraulic Performance of Boilers", Mahdi Hatif Kadhum, Mech. Engr. Dept., University of Kufa, 2003
- (13) "Flow Interaction Between a Boundary Layer Over a Flat Plate and the Wake of Airfoil", Abbas Jasim Jubair, Mech. Engr. Dept., University of Technology, 2003, (Thesis in Arabic)
- (14) "Developing Turbulent Forced Convection Heat Transfer Through Concentric Annuli", Ayad Mahmood Salman, Mech. Engr. Dept., University of Technology, 2003, (Thesis in Arabic)
- (15) "Thermal Analysis of an Octagonal-Shell Earth Orbiting Body", Khalil Mohammad Khalil, Mech. Engr. Dept., University of Baghdad, 2003
- (16) "Heat Transfer Between Two Bodies in Rolling Process", Mohammed Yousif Jabbar, Mech. Engr. Dept., University of Babylon, 2004
- (17) "Developing Turbulent Flow and Heat Transfer Through Ducts of Rectangular and Circular Cross Section", Ali Nuaman, Mech. Engr. Dept., University of Babylon, 2005
- (18) "Forced Convection Thermal Boundary Layer Development in a Porous Media Near a Heated Wall", Qahtan Abdul Zahra Flaiyh Al-Abidy, Mech. Engr. Dept., University of Technology, 2005 (Thesis in Arabic)
- (19) "Developing Turbulent Flow and Heat Transfer in a Square Duct with Porous Walls", Ahmed Ni ameh Mehdy Al- Mussawy, Mech. Engr. Dept., University of Technology, 2005, (Thesis in Arabic)
- (20) "Transient Natural Convection Heat Transfer from a Plane Wall to a Thermally Stratified Media", Ahmed Taha Ibrahim, Mech. Engr. Dept., University of Technology, 2005
- (21) "Unsteady Hydrodynamic and Thermal Boundary Layers over a Porous Flat Plate", Aser Muneer Flayh, Mech. Engr. Dept., University of Al-Mustinsiriya, 2005
- (22) "Developing Compressible Turbulent Flow and Heat Transfer in Circular Tube with Porous Walls", Adil Abbas Mohammed, Mech. Engr. Dept., University of Baghdad, 2005
- (23) "Preliminary Design of a Multi-Stage Axial Compressor", Ruqeaa Ismail Muhsen, Mech. Engr. Dept., University of Baghdad, 2006





- (24) "Hydrodynamic and Thermal Two-Dimensional Boundary Layers Development Between Rotating Turbine Blades", Taif H. Saleh, Mech. Engr. Dept., University of Baghdad, 2006
- (25) "Developing Laminar Mixed Convection Heat Transfer Through Concentric Annuli" Mohammed Abdul Raouf Nima, Mech. Engr. Dept., University of Baghdad, 2007
- (26) "Natural Convection In Confined Cylindrical Enclosure Of Porous Media With Constant And Periodic Wall Temperature Boundary Conditions" Mohammed Mehdi Saleh, Mech. Engr. Dept., University of Baghdad, 2008
- (27) "Conduction Heat Transfer In Porous Media With Embedded Concentrated Heat Source" Modhaffer Swadi Tayeeh, Mech. Engr. Dept., University of Al-Nahrain, 2008
- (28) " Natural Convection Cooling of a Flat Plate ", Areej Sami Mehdi, Mech. Engr. Dept., University of Al-Nahrain, 2008
- (29) "Laminar Filmwise Condensation of R134a Oil Mixture on a Bundle of In-Line Circular Tubes ", Suha Kareem Jabor, Mech. Engr. Dept., University of Al-Nahrain, 2008
- (30) "Transient Natural Convection Heat Transfer From a Vertical Plane Wall to a Confined Porous Media ", Ahmed Hameed Mehdi, Mech. Engr. Dept., University of Al-Nahrain, 2008
- (31) "Developing Laminar Mixed Convection Heat Transfer Through Concentric Annuli with Adiabatic Inner Cylinder", Ghada Abbas Sadiq, Mech. Engr. Dept., University of Baghdad, 2009
- (32) "Experimental and Computational Investigation of Developing Laminar Mixed Convection Through Concentric Annuli with Asymmetric Heating", Najim Abed Kadhum, Mech. Engr. Dept., University of Baghdad, 2009
- (33) "Developing Flow and Heat Transfer through Rectangular Annulus Ducts", Ula M. Haddawi, Mech. Engr. Dept., University of Al-Nahrain, 2009
- (34) "Developing Natural Convection Heat Transfer through Circular Tubes ", Firas M. Abdul-Sattar, Mech. Engr. Dept., University of Al-Nahrain, 2009
- (35) "Experimental and Numerical Investigation of Natural Convection Heat Transfer from a Plane Wall to a Thermally Stratified Environment", Naseem Kamil Ali, Mech. Engr. Dept., University of Baghdad, 2011





- (36) "Investigation of Natural Convection Heat Transfer from a Plane Wall to a Thermally Stratified Porous Media", Basim Khalid Raheem, Mech. Engr. Dept., University of Baghdad, 2013
- (37) "Investigation of Natural Convection in Inclined Cylindrical Enclosure of Porous Media Subjected to Constant and Periodic Heat Flux", Nasr A. Jabbar, Mech. Engr. Dept., University of Baghdad, 2013
- (38) "Experimental and Numerical Investigation of Forced Convection in Porous Medium Subjected to Constant Heat Flux", Aya A. Yaseen, Mech. Engr. Dept., University of Baghdad, 2013
- (39) "An Investigation of Hydraulic and Thermal Performance of Metal Foam Filter", Mohammad Yaseen Shaker, Mech. Engr. Dept., University of Baghdad, 2015
- (40) "Thermal Performance Enhancement of Phase Change Materials (PCMs) by using Metal Foams", Marwah Abdulkareem Jasim, Mech. Engr. Dept., University of Baghdad, 2015
- (41) "Aerodynamic Characteristics of Inverted Airfoil with Ground Effects", Mustafa Sabeeh Abood, Mech. Engr. Dept., University of Baghdad, 2016
- (42) "Aerodynamic Characteristics of Peugeot 405 Car Model", Saad Mohsin Faris, Mech. Engr. Dept., University of Baghdad, 2017
- (43) "An Investigation into Thermal Performance of Dry Friction Brake ", Maha A. Hasan, Mech. Engr. Dept., University of Baghdad, 2018
- (44) "Performance Enhancement of Phase Change Material (PCM) Cascade Thermal Energy Storage (CTES) System by Using Metal Foams in the Fluid Passage Side", Alaa Azeez Ghulam, Mech. Engr. Dept., University of Baghdad, 2020

• الاشراف على اطاريح الدكتوراه

- (1) "The Numerical Prediction of the Compressible Turbulent Flow Inside a Gas Turbine Stator Passage", Yaseen Taha Mohammad Sheet, Mech. Engr. Dept., University of Baghdad, 2003
- (2) "Zonal Hybrid Scheme for Inviscid and Viscid Flow with Special Application to Fixed and Rotating Bi-Elliptic Circular Dish", Karima Ismail Ammori, Mech. Engr. Dept., University of Baghdad, 2004





- (3) "Investigation of the Effect of Wake Generatedby Rotor Blades on Flow Through Stator Passage for Low Pressure Turbine", Ahmed Waheed Mustafa, Mech. Engr. Dept., University of Baghdad, 2005
- (4) "Evaluation of Temperature Distribution and Fluid Flow in Fusion Welding Processes", Salah Sabeeh Abdul-Kareem, Mech. Engr. Dept., University of Baghdad, 2005
- (5) "Optimization of Thermal Layout Design of Electronic Equipments on PCB", Hayder Shakir Abdullah, Mech. Engr. Dept., University of Baghdad, 2005
- (6) "Flow Interaction Between the Fuselage Boundary Layer and the Dish Boundary Layer and Wake of the AWACS", Shwan Faraj Mahmood, Mech. Engr. Dept., University of Baghdad, 2005
- (7) "An Investigation Into Laminar Combined Convection Heat Transfer Through Concentric Annuli", Akeel A. Mohammed, Mech. Engr. Dept., University of Technology, 2005
- (8) "An Investigation into Fluid Flow and Mixing Process in a Stirred Tank Newtonian Liquid Mixer ", Nizar Jawad Hadi, Mech. Engr. Dept., University of Baghdad, 2006
- (9) "Transient Three-Dimensional Natural Convection in Inclined Confined Porous Media", Wajeeh Kamal Hassan, Mech. Engr. Dept., University of Technology, 2006
- (10) "The Effect of Internal Acoustic Excitation on the Aerodynamic Characteristics of Airfoil", Muhammed Wahab Kadhum, Mech. Engr. Dept., University of Technology, 2007
- (11) "Natural Convection Heat Transfer in Confined Porous Media Heated from Sides", Dhyaa Al-Deen H. Alwan, Mech. Engr. Dept., University of Technology, 2009
- (12) "Three Dimensional Natural Convection with Phase Change in Confined Porous Media", Ayad K. Hassan, Mech. Engr. Dept., University of Baghdad, 2010
- (13) "An Investigation into Three Phase Direct-Contact Heat Transfer with Gas Hydrate Formation", Bassim Kadum Abbas, Mech. Engr. Dept., University of Baghdad, 2011





- (14) "Mixed Convection with Phase Change in Cylindrical Enclosure of Porous Media", Mohammed A. Nima, Mech. Engr. Dept., University of Baghdad, 2012-12-01
- (15) "Numerical and Experimental Study of Enhancement of Heat Transfer Rate by Using Oscillating Fin", Dheya G. Mutasher, Mech. Engr. Dept., University of Baghdad, 2012
- (16) "An Investigation of Gear Pump Performance Using Unsymmetric Teeth Profile", Hussein Jabbar Hussain, Mech. Engr. Dept., University of Baghdad, 2013
- (17) "Mixed and Natural Convection in Confined Porous Medium with Uniform and Periodic Boundary Conditions", Luma Fadhil Ali, Mech. Engr. Dept., University of Baghdad, 2013
- (18) "Aerodynamic Characteristics of Multi-Element Airfoil System with Ground Effects", Anmar Hamid Ali, Mech. Engr. Dept., University of Baghdad, 2014
- (19) "Mixed Convection in Cylindrical Annulus of Porous Media With Rotating Inner Cylinder", Raed G. Saihood, Mech. Engr. Dept., University of Baghdad, 2015
- (20) "An Investigation of Flow Boiling Heat Transfer in Metal-Foam Filled Vertical Tubes", Ali H. Lafta, Mech. Engr. Dept., University of Baghdad, 2015
- (21) "Forced Convection In Cylindrical Annulus Of Porous Media With Rotating Inner Cylinder", Zaid A. Hussein, Mech. Engr. Dept., University of Baghdad, 2018
- (22) "Thermal Performance Enhancement of Phase Change Materials (PCMs) by using Cascade Thermal Energy Storage (CTES) System with Metal Foam", Hiba A. Hasan, Mech. Engr. Dept., University of Baghdad, 2018
- (23) "Thermal Behaviour of Dry Friction Clutches with Different Friction Materials and Operating Conditions", Jenan Shaker Sherza, Mech. Engr. Dept., University of Baghdad, 2019
- (24) "Flow Boiling of Alternative Refrigerants in Metal Foam Filled Tubes", Ali Samir Aneed, Mech. Engr. Dept., University of Baghdad, 2019





(25) "Thermal Analysis and Control of Printed Circuit Board PCB Equipped with Perforated Fins Heat Sink with Inclination and Vibration Effects", Hiba Mudhafar Hashim, Mech. Engr. Dept., University of Baghdad, 2021

براءات الاختراع المسجلة

(1) Prof. Dr. Ihsan Y. Hussain, Fouad Alwan Saleh, Laith Jaafer Habeeb, Bassim Mohammed Magel, Nabel Sameer Mahmood, Homam Kareem Julghaf, "Hybrid Enhancement Method for Hot Water Heating System by Using Nanofluids and Twisted Tapes Inside Finned Tubes", Patent's No. 5247 issued on (21/2/2018) according to the official order (667) on (28/2/2018), International Classification (F24D3/00, F24D7/00), Iraqi Classification (13), issued by (Central Organization for Standardation and Quality Control – Iraq / Baghdad)

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