CURRICULUM VITAE

Anas Altawallbeh (Ph.D)

PERSONAL DETAILS

Name : **ANAS ABDALLAH AHMAD ALTAWALLBEH**

Nationality : Jordanian

Date of Birth : 9th Sep. 1980

Address : Department of Mathematics, School of Basic and Marine Sciences, The University of Jordan, Aqaba 77110 Jordan.

CONTACT INFORMATION

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ACADEMIC QUALIFICATIONS

2010 - 2013: Doctor of Philosophy (Mathematics), National University of Malaysia (UKM), Malaysia **(** www.ukm.edu.my **).**

Thesis: Numerical and Analytical Solutions of Linear and Nonlinear Double Diffusive Convection in a Fluid-Saturated Porous Layer.

(Thesis concerns with developing mathematical models in fluid dynamics that using linear and nonlinear partial differential equations and its solutions using analytical and numerical methods).

Supervisor: Prof. Dr. Ishak Hashim (ishak_h@ukm.edu.my).

2009 - 2010: Master of Science (Mathematics), National University of Malaysia, (UKM), Malaysia. (CGPA 3.63/4 Excellent).

Thesis: Numerical Simulation of Viscous Dissipation Effect on Natural Convection in a Square Porous Enclosure.

Supervisor: Prof. Dr. Ishak Hashim.

2005 – 2007: Master of Education (Measurement and Evaluation), Yarmouk University, Irbid, Jordan (www.yu.edu.jo)

1998 - 2003: Bachelor of Science (Mathematics), Jordan University of Science and Technology (JUST), Irbid, Jordan. (www.just.edu.jo).

1997 - 1998: High School Diploma Altawjihi **(scientific stream, average: 85.8)**, ministry of education, Irbid, Jordan.

EXPERIENCES:

September 2021- Present: **Assistant Professor**, (Chairman) Department of Mathematics, School of Basic and Marine Sciences, **The University of Jordan**, Aqaba-Jordan.

March 2014 – August 2021: **Assistant professor**, Philadelphia University.

Sep. 2017- Aug. 2021 : **Head of Department**, Department of Mathematics and Basic Sciences, Faculty of Science, Philadelphia University, Jordan

Teaching Experiences:

Calculus1, Calculus2, Calculus3, Real Analysis Ordinary Differential Equations, Partial Differential Equations, Linear Programming, Numerical Analysis, Linear Algebra, Number Theory, Mathematical Software Packages (Mathematica, MATLAB, Maple).

Calculus I Coordinator (Sep. 2015 – Sep.2019).

September 2010 – July 2011 : Math teacher**,** Libyan School, Kuala Lumpur, Malaysia

August 2008 - December 2008: Math teacher**,** Alqemmah Private Schools, Amman, Jordan

September 2007-July 2008 : Math teacher**,** Abdul Rahman Bin Jassim Preparatory Independent School, Doha, Qatar

September 2003 - June 2007 : Math teacher**,** Ministry of Education, Jordan

RESEARCH INTERESTS

- **Mathematical models with linear and nonlinear partial differential equations in viscoelastic fluids and nanofluids.**
- Numerical simulation and numerical methods (Finite volume method FVM, and Finite difference method FDM)
- Mathematical modeling
- Differential Equation
- Computational fluid dynamics (CFD) (Porous enclosures and porous layers)
- Hydrodynamic Instability
- Heat and mass transfer in fluids and nanofluids saturated porous enclosures.

RESEARCH EXPERIENCE

2014 – Now **Assistant Professor**, Philadelphia University:

- Mathematical modeling (**system of nonlinear partial differential equations**) For fluid dynamics problems. (FVM and linear and nonlinear stability theory)

- Linear and nonlinear natural convection in viscoelastic fluids and nanofluids saturated porous layer.

- Flow and heat transfer of a nanoliquid over an unsteady stretching sheet with internal heat generation.

- Conjugate natural convection of Al_2O_3-water nanofluid in partially heated square cavity with conducting solid block using Buongiorno's two-phase model.

2010 – 2013 **PhD Student**, School of Mathematical Sciences, National University of Malaysia (UKM).

- Numerical methods (finite volume and finite difference methods) to solve a system of nonlinear partial differential equations, computational fluid dynamics (CFD).

- Analytical methods (Linear and nonlinear stability analysis) to study the onset of convection in a fluid layer and heat and mass transfer.

- Numerical simulation of double-diffusive natural convection in a fluid-saturated porous enclosures.

- Magnetohydrodynamics (MHD)

2009 – 2010 **Master Student,** School of Mathematical Sciences, National University of Malaysia (UKM).

- Numerical simulation of natural convection in a square porous enclosure using finite difference method.

COMPUTER SKILLS

- **ICDL**: International Computer Driving Licence/ Jordan.
- Excellent experience in programming in **MATLAB** and **Maple.**
- Excellent experience in writing using **LATEX**.

MEMBERSHIPS

2011 – Present **Member**, Society for Industrial and Applied Mathematics, (SIAM), USA.

2015- 2017 **Member,** the Scientific Research Council, Philadelphia University, Jordan.

2016- 2021 **Member**, Quality Assurance Committee, Faculty of Science, Philadelphia University, Jordan.

Courses:

- **Online & Blended Learning Workshop 5/7- 7/7 2022**, Accreditation and Quality Assurance Center, Open Source and Blended Learning Center, The University of Jordan, Amman, Jordan.

Academic year 2019 – 2020 (Philadelphia University)

- University ranking.
- Quality assurance.
- Mat Lab Software.
- Blended learning.
- Latex.

Submitted Manuscripts for Publication:

- M.A. Sadiq, A.A. Altawallbeh, M.A. Qureshi and I. Hashim (2022). **Mixed convection in a wavy nanofluid-filled cavity containing a rotating cylinder and a corner heater. (manuscript number: ICHMT-D-20-01547).** *International Communications in Heat and Mass Transfer* (JCR) (Elsevier 2022).

PUBLICATIONS:

- A.A. Altawallbeh, (2021). Cross Diffusion Effect on Linear and Nonlinear Double Diffusive Convection in a Viscoelastic Fluid Saturated Porous Layer with Internal Heat Source. (Fluids **2021**, 6, 182. https://doi.org/10.3390/fluids6050182). MDPI. (Scopus, Q2, SJR 0.4, Cite Score 2.1 Scopus)

- A. Alsaberey, M. Yazdi, A.A. Altawallbeh, and I. Hashim**, 2019. Effects of nonhomogeneous nanofluid model on convective heat transfer in partially heated square cavity with conducting solid block**. *Journal of Thermal Analysis and Calorimetry*, **pp:1-26, 2018 (Springer, JCR, I.F: 2.209,** https://doi.org/10.1007/s10973-018-7789-3).

- A.A. Altawallbeh, I. Hashim, B.S. Bhadauria, **2019**. **Magneto-Double Diffusive Convection in a Viscoelastic Fluid Saturated Porous Layer with Internal Heat Source. (Scopus)**
  AIP Conference Proceedings **2116, 030015 (2019); https://doi.org/10.1063/1.5113999.**

- A.A. Altawallbeh, B.S. Bhadauria, I. Hashim. **2018**. **Linear and Nonlinear of Double-diffusive Convection in a Fluid Saturated Porous Layer with Soret Effect Using Thermal Nonequilibrium Model**, *Journal of Porous Media*, **(**Begell House, inc., JCR Impact Factor 1.035), (**DOI:** 10.1615/JPorMedia.2019029035).

- A.A. Altawallbeh, I. Hashim, A.A. Tawalbeh, **2018**. **Thermal Noneqilibrium Double Diffusive Convection in a Maxwell Fluid with Internal Heat Source.**
  ***Journal of Physics*: Conf. Series 1132 (2019) 012027, IOP Publishing,**
  (doi:10.1088/1742-6596/1132/1/012027). (Scopus)

- A.A. Altawallbeh, I. Hashim, B.S. Bhadauria, **2017**. **On the Linear Stability of Double-diffusive Convection in a Viscoelastic Fluid Saturated Porous Layer with Cross Diffusion Effects and Internal Heat Source.** AIP Conference Proceedings **1830**, 020008 (2017); doi: 10.1063/1.4980871. (Scopus)

- A.A. Altawallbeh, B.S. Bhadauria, I. Hashim. **2013**. **Linear and nonlinear double-diffusive convection in anisotropic porous layer with Soret effect and internal heat source**. *International Journal of heat and Mass Transfer* 59: 103-111. (**Elsevier, 2013 Impact Factor: 2.4, JCR**),(https://doi.org/10.1016/j.ijheatmasstransfer.2012.12.005).

- A.A. Altawallbeh, N.H. Saeid, I. Hashim, **2013**. **Magnetic field effect on natural convection in a porous cavity heating from below and salting from side**. *Advances in Mechanical Engineering*, Volume 2013, Article ID 183079, 13 pages. doi:10.1155/2013/183079. (SAGE Publications, Impact Factor: 1.062, JCR), (https://doi.org/10.1155/2013/183079).

- A.A. Altawallbeh, N.H. Saeid, I. Hashim, **2013**. **Numerical solution of double-diffusive natural convection in a porous cavity partially-heated from below and partially-salted from side.** *Journal of Porous Media*, 16(10): 903-919. (Begell House, inc. ISI, JCR Impact Factor 1.035), (**DOI:** 10.1615/JPorMedia.v16.i10.30).

- A.A. Altawallbeh, N.H. Saeid, I. Hashim, **2013**, **Numerical Simulation of Magnetic Field Effect on Natural Convection in a Porous Cavity Heating from below and Salting From Side.** *World Applied Sciences Journal 21 (Mathematical Applications in Engineering)*: 01-05. (IDOSI Publications), (DOI: 10.5829/idosi.wasj.2013.21.mae.9992).

PROCEEDINGS (International Conferences**)**

- A.A. Altawallbeh, 2021. Effect of internal heating on the onset of double diffusive convection in a couple stress fluid saturated porous layer using thermal non-equilibrium model. **Yarmouk Mathematics Conference on differential equations, Analysis, modeling, and numerical computations. 18-20 September 2021, Irbid, Jordan.**

- A.A. Altawallbeh, I. Hashim, B.S. Bhadauria, 2018. Magneto-Double Diffusive Convection in a Viscoelastic Fluid Saturated Porous Layer with Internal Heat Source. **16th International Conference on Numerical Analysis and Applied Mathematics (ICNAAM 2018), 13-18 Sep 2018, Rhodes, Greece.** *The conference proceedings published by the **American Institute of Physics (AIP)** in AIP Conference Proceedings.*

- A.A. Altawallbeh, I. Hashim, A.A. Tawalbeh, 2018. Thermal Non-equilibrium Double Diffusive Convection in a Maxwell Fluid with Internal Heat Source. **International conf. on mathematical sciences and statistics (ICMSS2018) 6-8 Feb. 2018, Putrajaya, Malaysia.**

- A.A. Altawallbeh, 2017. Thermal Non-equilibrium Double Diffusive Convection in a Couple Stress Fluid Saturated Porous Layer. **International Conference on Applied Analysis and Mathematical Modeling (ICAAMM 2017). 03-07 July 2017, Istanbul, Turkey.**

- A.A. Altawallbeh, I. Hashim, B.S. Bhadauria, 2016. **On the Linear Stability of Double-diffusive Convection in a Viscoelastic Fluid Saturated Porous Layer with Cross Diffusion Effects and Internal Heat Source. The 4th International Conference on Mathematical Sciences (ICMS4) 15-17 November 2016, Malaysia.** *The ICMS4*

*proceedings published by the **American Institute of Physics (AIP)** in AIP Conference Proceedings series, and indexed by **ISI and Scopus**.*

- A.A. Altawallbeh, B.S. Bhadauria, I. Hashim. 2013. **On the stability of double-diffusive convection in a porous layer with throughflow and internal heat source**. International Conference on Mathematical Modeling and Numerical Simulation, July 01-03, 2013, Department of Applied Mathematics, Babasaheb Bhimrao Ambedkar University, Lucknow, India.

- A.A. Altawallbeh, N.H. Saeid, I. Hashim, 2013. **Numerical simulation of magnetic field effect on natural convection in a porous cavity heating from below and salting from side.** *Proceedings of the 2nd International Conference on Mathematical Applications in Engineering* (ICMAE2012), 3-5 July 2012, Kuala Lumpur, Malaysia. ISI.
- A.A. Altawallbeh, B.S. Bhadauria, I. Hashim. 2013. **On the stability of double-diffusive natural convection in anisotropic porous layer with Soret effect and internal heat source.** 12th postgraduate colloquium, 4-5 July 2012, Faculty of Science and Technology, University Kebangsaan Malaysia (UKM), Malaysia

- A.A. Altawallbeh, I. Hashim. 2011. **Viscous dissipation effect on natural convection in a square cavity filled with a porous medium**. *Proceedings of Universiti Malaysia Terengganu 10th International Annual Symposium 2011* (UMTAS2011).

CONFERENCES (Attended)

- **20th National Symposium in Mathematical Sciences**
  18-20 December 2012, Palm Garden Hotel, Putrajaya, Malaysia.

- **7th International Congress on Industrial &Applied Mathematics (ICIAM2011)**
  18 – 22 July 2011, Vancouver, British Columbia, Canada.

- **10th International Annual Symposium (UMTAS 2011)**, **Universiti Malaysia Terengganu,** 11-13 July 2011, Permai Hotel, Kuala Terengganu, Malaysia.

- **CIMPA-UNESCO-SYRIA**
  "Theoretical and applied aspects of some PDEs coming from geometry or physics"
  15/05/2004 – 27/05/2004, Damascus University, Damascus, Syria.

REFERENCES

- **Prof. Dr. Ishak Hashim**, School of Mathematical Sciences, Faculty of Science and Technology, National University of Malaysia (UKM), Malaysia (thesis supervisor) (ishak_h@ukm.edu.my).
- **Prof. Dr. Nawaf H. Saeid**, Department of Mechanical Engineering, The Institut Teknologi Brunei, Brunei Darussalam (n_h_saeid@yahoo.com).

- **Prof. Dr. B.S. Bhadauria**, Department of Applied Mathematics, School of Physical Sciences, Babasaheb Bhimrao Ambedk University, Lucknow, India (mathsbsb@yahoo.com).
- **Dr. Maaroof Samhan.** Dean, Faculty of Science. Philadelphia University, Jordan (H.P: 00962799781276).