CURRICULUM VITAE

Name : Zainal Abdul Aziz

Currently serving as : *1. Director* of MYHIMS (refers to Malaysian Hub for Industrial Mathematics and Statistics) Solutions PLT (2018 -), *2. President*, Akademi Ilmuan Sains Matematik Malaysia (AISMM) (Malaysian Academy of Mathematical Scientists) *(10 January 2025 – 31 December 2026). 3. Advisor & External Research Fellow (Industry)* UTM-CIAM, *(1 Feb 2022 – 31 Jan 2024 – Feb. 2025), 4. Advocate* for MIIR, Cambridge University Press (2020 -). *5. Professor (V),* Dept. Mathematical Sciences, Faculty of Science, UTM. (1 July 2025 – 30 June 2026).

Current Address : **MYHIMS Solutions PLT**
No. 8-01, Jalan Pulai Perdana 12, Taman Sri Pulai Perdana, 81300 Skudai, Johor.
Tel: +6011-11227016 (O)

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Website: http://myhims.my/, http://ciam.utm.my/

ACADEMIC QUALIFICATIONS

- ***Ph.D. in Mathematical Physics (1997)***, Universiti Kebangsaan Malaysia (UKM), Bangi, Malaysia. Supervisor: Prof. Dr. Shaharir Md. Zain FIMA, FIPM, FIA, F.A.Sc., Thesis's Title: Complex Diffusion Equation's Solutions Which Conform to the Notion of Feynman Path Integral (*Penyelesaian Persamaan Resapan Kompleks yang Sesuai dengan Gagasan Kamiran Lintasan Feynman*). (QC794. 6F6.Z36, UTM Scholar)
- ***M.Sc. in Mathematics (1989)***, Universiti Kebangsaan Malaysia (UKM), Bangi, Malaysia. Supervisor: Prof. Dr. Shaharir Md. Zain FIMA, FIPM, FIA, F.A.Sc., Thesis's Title: A Survey on Solitons via Global Analysis Perspective (*Tinjauan Soliton Mengikut Perspektif Analisis Sejagat*). (QA427. Z34 1989, UTM Scholar)
- ***B. Sc. (Hons) in Mathematical Physics (1982)***, University of Manchester Institute of Science and Technology, Manchester, England (UMIST/Manchester). Honours Project Supervisor: Dr. P. J. Caudrey. Project's Title: Path-integral Approach to Non-Relativistic Quantum Mechanics. (QC 125 Z34 1982 af, PSD/JPA Scholar)

GENERAL RESEARCH THEME

Applied Analysis & Mathematical Physics (AAMP)

AREAS OF INTEREST & EXPERTISE

Functional Integrals in Mathematical Physics, Non-Linear Waves & Modelling, Engineering and Industrial Mathematics (Construction & Analysis of Models), Philosophy of Mathematical Sciences & Applicable Mathematics Education.

AWARDS AND HONORS RECEIVED

UTMCIAM Meritorious Service Award (2022), ISISIR Al-Khawarizmi-Auf Award (2021), Anugerah Penulis Jurnal Berindeks Citra Karisma (2017), UTM Loyalty/Allegiance Service Award (2015), UTM Community Service Award - Kumpulan 3P Matematik (K3PM) (2014), Best Paper Award at the 2nd International Conference on Geological, Geographical, Aerospaces and Earth Sciences (AeroEarth 2014), Research Paper Category Award, Malaysian Mathematical Sciences Society (PERSAMA) (2014), Research Paper Category Award, Malaysian Mathematical Sciences Society (PERSAMA) (2010), Research Paper Category Award, Malaysian Mathematical Sciences Society (PERSAMA) (2009), Faculty of Science Publication Award (2009), Pertandingan Tunas Saintis, Minggu Terbuka Fakulti Sains, Persatuan Sains & Teknologi (PESAT) (2009), Faculty of Science, UTM Excellent Service Awards (2008, 2010 & 2012), UTM Excellent Service Awards (1998, 2007 & 2011), UTM Loyalty/Allegiance Service Award (2004).

PROFESSIONAL EXPERIENCES

- Professor of Applied Mathematics, Department of Mathematical Sciences, Faculty of Science, UTM (2013 – 2019)
- Director of MYHIMS Solutions PLT (2018 -)
- Adjunct Professor UTM, (1 Nov. 2019 – 30 Oct. 2021, 1 Nov. 2021 – 31 Oct. 2023).
- External Research Fellow (Industry), UTM Centre for Industrial and Applied Mathematics (UTM-CIAM), UTM Johor Bahru (1 Feb 2022 – 31 Jan 2024).
- President of Asia Pacific Consortium of Mathematics for Industry (APCMfI) (May 2021 – April 2024)
- Vice-President, Akademi Ilmuan Sains Matematik Malaysia (AISMM) (Malaysian Academy of Mathematical Scientists) (1 January 2023 – 31 December 2024).
- Advocate for MIIR (Mathematics in Industry Reports), Cambridge Univ. Press. (2020 -)
- Director, UTM Centre for Industrial and Applied Mathematics (UTM-CIAM), UTM Johor Bahru (2013 – 5th Aug 2018).
- Acting Head of Department of Mathematical Sciences, Faculty of Science, UTM Johor Bahru (1st Jan. – 30th April 2013).
- Head of Department of Mathematical Sciences, Faculty of Science, UTM (2010 – 2012).
- Chairman of the Mathematics Programme, Institute Ibnu Sina for Fundamental Science Studies (IIS), UTM Johor Bahru (28th Feb. 2003 – 27th Feb. 2005, 28th Feb. 2005 – 31st May 2007).

JOURNAL EDITOR/EDITORIAL/ADVISORY PANEL

- **Editorial Board,** Pacific Journal of Mathematics for Industry (2014 – Presently).
- **Board of Editors,** Jurnal KALAM (2008 – Presently).
- **Board of Editors**, Journal MATEMATIKA: Malaysian Journal of Industrial and Applied Mathematics (2002 – 2025).
- **Board of Editors,** Journal of Fundamental Sciences (2005 - 2010).
- **Board of Editors,** Jurnal Teknologi (Sciences & Engineering) (2001 – 2009).
- Book Chapters in Research in Applied Mathematics (2008), A.A. Zainal (ed.) Mathematics Department, UTM Skudai, Publisher UTM Skudai, ISBN: 978-983-52-0606-1.

- MATEMATIKA Special Edition Parts 1 & 2 (for 2nd ICoMS 2007), Mathematics Department, UTM ISSN: 0127-8274 (Dec. 2008).

ADMINISTRATIVE EXPERIENCES

.

- Chairman, Bengkel Sehari Pembentukan Dasar Sains Matematik Negara (SPDSMN2025), Jabatan Sains Matematik, Universiti Teknologi Mara, Shah Alam, 4 Feb. 2026.
- Chairman, Seminar Pembentukan Dasar Sains Matematik Negara (SPDSMN2025), Institut Sains Matematik, Universiti Malaya, K.L., 25-26 Nov. 2025.
- Head of Jury, Malaysia Industrial Mathematical Modelling Challenge 2021 (MIMMC2021) Grand Final, 23 Jan 2022.
- Chairman MYHIMS – Conference 2021. 17 -19 August 2021.
- Coordinator, National Council of Professors in the field of Science & Mathematics (UTM Chapter), 15 Mac 2017 -14 Mac 2019.
- Head of Task Force for "Measuring on the Critical Thinking & Problem Solving (CTPS) Skills", Office for Undergraduate Studies, UTM Johor Bahru (2008 – Presently).
- Research Fellow, UTM Centre for Industrial and Applied Mathematics (UTM-CIAM), Ibnu Sina Institute for Scientific and Industrial Research (ISI-SIR), UTM Johor Bahru (15th Feb. 2015 – 14th Feb. 2018).
- Chairman, Special Meeting and Round Table Discussion - Mathematics in Industry: Academia, Government and Industry in Action, UTM Kuala Lumpur (4th Nov. 2016).
- Chairman, Hi-Tea with Industry - Industrial Mathematics: European Success Stories, UTM Kuala Lumpur (3rd Nov. 2016).
- Chairman, Young Talent Consultancy Camp 2016 (YTC Camp 2016), UTM Johor Bahru (1st – 2nd Nov. 2016).
- Member, UTM Task Force on Research, Development & Commercialisation, UTM Johor Bahru.
- Member, Steering Committee for UTM Scientists' Programme with Nobel Agenda, UTM Johor Bahru (2013-2016).
- Member, Technical Evaluation Panel for 2016/1 GUP Proposal Evaluation, Niche Area Smart Digital Community, UTM Johor Bahru (2016).
- Member, UTM Task Force on KPI Setting for Research Alliances & COEs, UTM Johor Bahru (1st Oct. 2013 – 2nd Oct. 2015).
- Chairman, 3rd Mathematics in Industry Study Group (MISG) Malaysia 2015, UTM Kuala Lumpur (6th – 10th April 2015).
- Member, *Proses Penjajaran Strategi*, UTM Global Plan 2012 – 2020 (Phase II: 2015 – 2017).
- Chairman, National Seminar on Mathematics in Industry 2014: AISMM-UTMCIAM, UTM Johor Bahru (3rd June 2014).
- Chairman, 2nd Mathematics in Industry Study Group (MISG) Malaysia 2014, UTM Johor Bahru (17th – 21st March 2014).
- Chairman, International Seminar on Mathematics in Industry 2013 (ISMI2013), UTM Johor Bahru (27th – 28th Nov. 2013).
- Head of Mathematics & Statistics in Industry Group (MSIG), ESciNano/Nanotech Research Alliance, UTM Johor Bahru (24th June 2009 – 23rd June 2011, 1st Nov. 2011 – 31st Oct. 2013).
- Head of Nonlinear Waves & Mathematical Physics Group (NLWMP), MSIG, ESciNano/Nanotech Research Alliance, UTM Johor Bahru (24th June 2009 – 23rd June 2011, 1st Nov. 2011 – 31st Oct. 2013)
- Principal Researcher, Ibnu Sina Institute for Fundamental Science Studies, UTM Johor Bahru (1st Oct. 2011 – 1st Sept. 2012).
- Council/Executive Member of ESciNano/Nanotech Research Alliance, UTM Johor Bahru (3rd Aug. 2009 – 2nd Aug. 2011).

- Chairman of the First Mathematics in Industry Study Group (MISG), Malaysia 2011 (14^{th} – 18^{th} March 2011) (UTM-Oxford-Massey-MIMOS Initiative).
- Chairman, Regional Annual Fundamental Science Seminar 2007, IIS, UTM and Co-Chairman of 2nd ICOMs-RAFSS2007 (2007).
- Chairman, M.Sc Engineering Mathematics Curriculum Committee, Mathematics Department, Faculty of Science. UTM (2004 – 2007).
- Chief Editor, IIS Bulletin, Institute Ibnu Sina for Fundamental Science Studies (IIS), UTM (2004 – 2005).
- Founding Editor, Forum Matematik, (A Weekly Newsletter), Mathematics Department, Faculty of Science, UTM (Sept. 1997 – Sept. 1999).

NATIONAL COMMITTEES

- Evaluator, FRGS proposal: Phase 1/2018, Ministry of Education Malaysia, 26^{th} Feb – 7^{th} April 2018.
- Evaluator, FRGS proposal: Phase 1/2017, Ministry of Education Malaysia, 27^{th}-31^{st} March 2017, MMU Cyberjaya.
- Committee Member, Fundamental Research Fund Evaluation, Ministry of Higher Education, Malaysia (2016).
- External Examiner-cum-Assesor, Institute for Teachers Education Malaysia, Malaysian Ministry of Education, Cyberjaya, Selangor (2014 - 2016).
- External Examiner-cum-Assessor, MSc (Applied Mathematics), Faculty of Computer Science & Mathematics, Universiti Teknologi Mara (UiTM), Shah Alam, Selangor, Malaysia (1^{st} Jan. 2014 – 31^{st} Dec. 2016).
- Curriculum Assesor, B.Sc. in Computational Mathematics, Universiti Malaysia Terengganu, Kuala Terengganu, 17^{th}-18^{th} Oct. 2016.
- Member, National Scientific Committee for the 24th National Symposium of Mathematical Sciences, Pusat Pengajian Informatik dan Matematik Gunaan, Universiti Malaysia Terengganu, Terengganu, 27^{th}-29^{th} Sept. 2016.
- Evaluator, FRGS (Skim Geran Penyelidikan Fundamental), Phase 1/2016, 9^{th}-12^{th} May 2016, Ministry of Higher Education; Universiti Teknologi Mara, Kampus Dengkil.
- External Examiner-cum-Assessor, BSc (Computational Mathematics), Faculty of Science & Technology, Universiti Malaysia Terengganu, 21030 Kuala Terengganu, Malaysia (Sept. 2013 - Aug. 2015).
- Member, Panel of Evaluators, Seminar on Research Findings under MOE FRGS 2011, Ministry of Education, Hotel Royale Resort & Spa, Seremban, 2 Oct. 2014 & Jabatan Pengajian Tinggi, MOE, Presint 5, Putrajaya, 13 Nov. 2014.
- Evaluator, FRGS proposal: Phase 1/2014, Ministry of Education Malaysia, 6^{th}-8^{th} May 2014, MMU Cyberjaya.
- Evaluator, FRGS Proposal: Phase 2/2013, Ministry of Education Malaysia, 6^{th}-10^{th} Oct. 2013, UTEM, Melaka.
- Chairman, Quality Control of 100% Page Proof of Secondary Textbooks Form 2, 4 & 5, Ministry of Education, Malaysia (2004 – 2006).

INTERNATIONAL APPOINTMENTS/COMMITTEES

- President, Asia Pacific Consortium of Mathematics for Industry (APCMfI) (May 2021 – April 2024).
- Advocate for MIIR (Mathematics in Industry Reports), Cambridge Univ. Press (2021 – Presently).
- Chairman, MYHIMS-C: International Seminar on Mathematics in Industry 2021 (ISMI2021) and International Statistics Conference (ISM-V) (17 – 19 Aug. 2021).
- Council Member, Asia Pacific Consortium of Mathematics for Industry (APCMfI) (2016 – Presently).

- Advisor, International Seminar on Mathematics in Industry & International Conference on Theoretical and Applied Statistics 2018 (ISMI-ICTAS18), UTM Kuala Lumpur (4^{th} – 6^{th} Sept. 2018).
- Advisor, International Seminar on Mathematics in Industry 2017 (ISMI2017), UTM Johor Bahru (1^{st} – 2^{nd} Aug. 2017).
- Interim Board Member, Asia Pacific Consortium of Mathematics for Industry (APCMfI) (2014 – 2016).
- International Advisory Committee Member, 2nd International Conference on Mathematics, Engineering and Industrial Applications (ICoMEIA 2016), Thaksin University, Thailand, 10^{th}–12^{th} Aug. 2016.
- Subcommittee Member of Mathematical Application, International Scientific Committee, International Conference on Mathematical Research, Education and Applications, ICMREA-UEL 2013, Faculty of Economic Mathematics, University of Economics and Law, Vietnam National University, Ho Chi Minh, Vietnam, 21^{st}-23^{rd} Dec. 2013.
- International Advisory Committee, Forum of Mathematics for Industry (FMfI) 2021, Hanoi, Vietnam.
- International Advisory Committee, Forum of Mathematics for Industry (FMfI) 2022, Melbourne, Australia.
- International Advisory Committee, Forum of Mathematics for Industry (FMfI) 2023, Fukuoka, Japan.

PROFESSIONAL MEMBERSHIPS AND RECOGNITIONS

- **Life Member**, Malaysian Mathematical Sciences Society (MMMSS), Membership No.: ZS2002-2 & ZB1995-3 (Since 1988).
- **Member**, Institute of Physics Malaysia (MIPM), Membership No.: 1172 (Since 2002).
- **Member**, International Association of Engineers (IAENG), Membership No: 109609 (Since 1^{st} Nov. 2010).
- **Founding Member**, Malaysian Academy of Malaysian Scientists (MAMS or AISMM) (Since 2002).
- **Life Member.** Malaysian Institute of Statistics, (ISMy) (Since 2018).
- **Member**, Asia Pacific Consortium of Mathematics for Industry (APCMfI) (Since Sept. 2016).

TEACHING EXPERIENCES

UNDERGRADUATE COURSES TAUGHT

Tensor Analysis (Mat 3561), Advanced Mathematics I (Mat 2252), Dynamics (Mat 0662 & 0622), Statics & Dynamics (Mat 0603), Algebra I & II (Mat 0312 & Mat 1332), Algebra (Mat 1352), Calculus I & II (Mat 0222, SSM 1262, SSM 1203 & SSM 2292, 2272, SSM 2233, SSH 1713), Elementary Mathematics (SSM 1063), Mathematics 1 (SSM 3032), Differential Equations I & II (SSM 2533, 2532, 3513, 2513, DSM 2533, SSM 2543, SSE 1793 & SSM 4542), Engineering Mathematics (SSE 1893), Differential Geometry (SSH 3613), History & Philosophy of Mathematics (SSM 3812), Linear Algebra (SSM XXXX), Mathematical Modelling (SSH 3713), Calculus of Variations (SSM 4533), Research Methodology & Information Retrieval (SSU 2623), Quantum Mechanics (SSH 3783).

POSTGRADUATE COURSES TAUGHT

Mathematical Methods (MSM 1573), Theoretical Mechanics (MSM 5213), Nonlinear Waves (MSM 1133), Research Methodology (ULP 0010) – *Report Writing/Thesis: Planning*, *Style and Format*, Methods in Engineering Mathematics (MSJ 1523), Solitons & Nonlinear Waves (MSJ 1733), Partial Differential Equations (MSCJ 1513 & MSCM 1173).

RESEARCH GRANTS

- **Project Member** of "Marine Cable Dynamics Simulation Software: Optimising Cable Laying Operations", Industry Grant between Ifactors-UTMCIAM-MYHIMS (1^{st} April 2026 – 31^{st} December 2027).

- **Project Leader** of "Magneto-Rheological Semi-Active Suspension System - A Mathematical Model", Research University Grant - GUP Tier 1, (15th Nov. 2015 – 14th Nov. 2017).
- **Project Leader** of "Aktiviti Pemantapan Kemahiran Perundingan Matematik Industri dan Pengkormesilan ke Arah Penubuhan Malaysia Hub for Industrial Mathematics (MHIM)", Research University Grant – Flagship, (1st May 2016 – 31st Oct. 2017).
- **Project Leader** of "Approximate Analytical Solutions of Magnetohydrodynamics Rotating Flow of Third and Fourth Grade Fluids in Porous Space", FRGS Fund, (16th Dec. 2013 – 15th June 2017).
- **Project Member** of "Green Sustainable Technology – Bioconservation of Giant Clam", Research University Grant – Flagship, (1st March 2015 – 31st May 2016).
- **Project Member** of "Free Vibration Analysis of Circular Cylindrical and Truncated Conical Shells with Fluid-Filled Vessel", FRGS Fund, (16th Dec. 2013 – 31st March 2016).
- **Project Leader** of "Quality Control for Bull Semen" with Putra Al Mawashi Genetics Sdn. Bhd., PPRN Fund, (15th Feb. 2015 – 15th Feb. 2016).
- **Project Member** of "Detection of VOC from Ganoderma Boninense" with Agri Diagnostic Sdn. Bhd, PPRN Fund, (15th Feb. 2015 – 14th Jan. 2016).
- **Project Member** of "Modelling and Optimization of Product Related to Clay for Cleansing Method in lslam" with MIFF Marketing (M) Sdn. Bhd, PPRN Fund, (15th Jan. 2015 – 15th Oct. 2015).
- **Project Member** of "Nonlinear Transversely Isotropic Constitutive Equation for Biological Tissues", FRGS Fund, (1st April 2013 – 30th Sept. 2015).
- **Project Member** of "Flexural Vibration of Anti-Symmetric Angle-Ply Layered Conical Shell of Constant and Variable Thickness", Research University Grant - GUP Tier 1, (1st April 2014 – 30th Sept. 2015).
- **Project Leader** of "Modelling and Optimization of mPHO Case Study: Taman Timor Oxidation Pond", Research University Grant – Flagship, (1st April 2014 – 30th June 2015).
- **Project Member** of "Ecosystem Optimization Model for FRIM and MARDI Problems", Research University Grant – Flagship, (1st April 2014 – 30th June 2015).
- **Project Member** of "Conformal Mapping Software for Medical Image Processing using Integral Equations with Generalized Neumann Kernel", Research University Grant – Flagship, (1st April 2013 – 31st March 2015).
- **Project Member** of "Flexural Vibration of Anti-Symmetric Angle-Ply Laminated Circular Cylindrical Walls of Constant and Variable Thickness", Research University Grant – Flagship, (1st April 2013 – 31st March 2015).
- **Project Member** of "Fractional Flow Reserve (FFR) on Non-Newtonian Blood Flow in Coronary Artery with Irregular Stenosis", Research University Grant – Flagship, (1st April 2013 – 31st March 2015).
- **Project Member** of "Kautz Graph Characterization of Multicolumn Channels and Switches for Optimal Channel Assignments in Cellular Network Systems", Research University Grant – Flagship, (1st April 2013 – 31st March 2015).
- **Project Member** of "Stochastic Model for Groundwater Transport Flow in Peninsular Malaysia", Research University Grant – Flagship, (1st April 2013 – 31st March 2015).
- **Project Member** of "Physical Interpretation Constitutive Model for Biological Tissues with Application to Mitral Valve Leaflet Tissues", Research University Grant - GUP Tier 2, (1st Dec. 2012 – 31st April 2014).
- **Project Leader** of "Flagship & Emerging Niche Area 2013", Research University Grant - Flagship, (1st April 2013 – 31st March 2014).
- **Project Member** of "Vibration Analysis of Cross and Angle-Ply Plates of Variable Thicknes", Research University Grant - GUP Tier 2, (1st Dec. 2012 – 31st Dec. 2013).
- **Project Leader** of "Homotopy Analysis Method (HAM) for Solving Magnetohydrodynamic (MHD) Rotating Flow of Non Newtonian Fluids", Research University Grant - GUP Tier 2, (1st May 2012 – 30th April 2013).

- **Project Member** of "Vibration Analysis of Angle-Ply Composite Annular Circular Plates under Shear Deformation Theory with Different Thickness Variations", Research University Grant - GUP Tier 2, (1st May 2012 – 30th April 2013).
- **Project Member** of "Determination of Constitutive Model for Soft Tissues using Physical Interpretation Parameters", Research University Grant - GUP Tier 2, (1st April 2011 – 31st Jan. 2013).
- **Project Leader** of "Modelling and Analysis of Magneto Hydrodynamic (MHD) Flows of Some Non Newtonian Fluids in Porous Medium", FRGS Fund, (1st Sept. 2010 – 30th Nov. 2012).
- **Project Member** of "Single Electron Transistor: Theory, Simulation and Design", Research University Grant - GUP Tier 2, (1st April 2011 – 31st July 2012).
- **Project Leader** of "Mathematical Modeling of Non Linear Effects of Seismic Waves", FRGS Fund, (15th Nov. 2009 – 14th Nov. 2011).
- **Project Leader** of "Mathematical Modelling of Tsunami Wave Generation", FRGS Fund, (1st Jan. 2007 – 30th June 2009).

POSTGRADUATE SUPERVISION

PhD Student (Main Supervisor)

1. Nor Hafizah Ahmad Kailani, Free vibration of composite plate and shell structures with constant and variable thickness including shear deformation and rotary inertia, 2017 (Completed).
2. Teng Lie Siang, Seismic, Acousto-Gravitational Waves, 2017 (Completed).
3. Yahaya Shagaiya Daniel, MHD boundary layer flow of a nanofluid with convective heat transfer, 2017 (Completed).
4. Vincent Daniel A/L David George, Mathematical modelling of tsunami waves, 2017 (Completed).
5. Fawzia Mansour Elniel Dalam, Nonlinear PDE and adomian method, 2017 (Completed).
6. Shafaruniza Mahadi, Nonlinear PDE and numerical schemes, 2017 (Completed).
7. Nurul Izyan Mat Daud, Vibration of laminated composite shell structures filled with fluid and without fluid, 2017 (Completed).
8. Amber Nehan Kashif, Nonlinear waves and HPM, 2017 (Completed).
9. Shaymaa M Mustafa, Groundwater Modelling, 2017 (Completed).
10. Sara Zergani, Mathematical modelling of tsunami wave using lattice Boltzmann method, 2016 (Completed).
11. Hero Waisi Salih, Limit cycles and dynamical systems, 2016 (Completed).
12. Mohammadreza Askaripour Lahiji, Numerical integration of certain semi-linear partial differential equations, 2015 (Completed).
13. Mojtaba Nazari, Approximate analytical solution of viscoelastic differential flow models using homotopy analysis method, 2015 (Completed).
14. Farah Suraya Nasruddin, Nonlinear PDE and HPM, 2015 (Terminated).
15. Leyla Ranjbari, Natural gas storage modelling based on observable gas prices, 2014 (Completed).
16. Faisal Salah Yousif Rasheed, Exact solution for MHD non-Newtonian fluids in porous mediums with and without rotation, 2012 (Completed).
17. Seyed Soheil, Integrable Systems, 2012 (Terminated).
18. Dennis Ling Chuan Ching, Mathematical modelling of seismic wave propagation, 2011 (Completed).
19. Salemah Ismail, One dimensional surface waves above varying bottom topography, 2008 (Completed).
20. Tan Wooi Nee, Theory of bichromatic wave groups amplitude amplification using implicit variational method, 2007 (Completed).

PhD Student (Co-Supervisor)

- Kashif Bin Zaheer, Financial modelling of portfolio management, 2018 (Completed).
- Mahad Ayem, Transversely isotropic nonlinear incompressible soft tissues using spectral invariants, 2017 (Completed).
- Saira Javed, Free vibration of angle-ply laminated cylindrical shells of variable thickness including shear deformation theory: spline method, 2014 (Completed).

MSc. Student (Main Supervisor)

1. Wan Nur Intan Ashiqin W. Ismail, Homotopy pertubation method (HPM) in solving nonlinear heat conduction and convection equations, 2017 (Completed).
2. Nur Eizyan Nazura Mohd Nor, Use of HPM to solve nonlinear equations, 2017 (On going).
3. Nurra Mahadi, Mathematical modelling of river Pollution by determining the level of DO and pollutants, 2014 (Completed).
4. Yahaya Shagaiya Daniel, Effects of pressure gradient on steady forced convection using HAM, 2014 (Completed).
5. Noraslinda Ali, Hirota Method and Sato Tau Function, 2013 (Completed).
6. Syazwani Mohd Zokri, River Pollution with EM via HAM, 2013 (Completed).
7. Syariffuddin, River pollution with EM, 2012 (Completed).
8. Nurellimia, River pollution in Skudai river, 2012 (Completed).
9. Nurul Syazwani Mohd Affandi, Analytical solution of contaminant transport in streams, 2011 (Completed).
10. Muna Maryam Azmy, Water quality modelling using mathematical formulation in QUAL2E, 2011 (Completed).
11. Nor Nadiah Kamarudin, Mathematical modelling of water pollutant transport, 2011 (Completed).
12. Sara Zergani, Analytical solutions and lattice Boltzmann method on SWE, 2011 (Completed).
13. Shafa, Solving beams problems using Green function, 2010 (Completed).
14. Farah Suraya Nasruddin, Painleve analysis on nonlinear evolution equations, 2010 (Completed).
15. Chia Chee Pen, Hirota Bilinear method, 2010 (Completed).
16. Nurul Hidayah, Thermal buckling of composite plates, 2009 (Completed).
17. Dennis Ling Chuan Ching, Seismic modelling in petroleum exploration, 2008 (Completed).
18. Annie A/P Gorgey, The use of Riemann-Hilbert problem in solving the KdV equation, 2007 (Completed).
19. Norhafizah Mohd Sarif, Mathematical modelling for the nonlinear mechanism of tsunami wave generation, 2006 (Completed).
20. Tan Siew Eng, Mathematical modelling of optical soliton transmission, 2006 (Completed).
21. Tiong Kung Ming, On the splitting of a solitary wave propagating over a slowly varying topography, 2002 (Completed).
22. Loo Bee Wah, Chaotic Hamiltonian system: dynamics in a Billiard system, 2001 (Completed).
23. Ng Tee Seng, Kaedah mudah bagi menyelesaikan satu kelas persamaan gelombang tidak linear berkepentingan fizikal, 2001 (Completed).

MSc. Student (Co-Supervisor)

- Karthik A/L Krishnan, Comparative study of vibration of composite laminated plates, 2016 (Completed).
- Tang Jun Siang, Mathematical modelling of magnetorheological fluid damper in the semi-active suspension system, 2016 (Completed).
- Hanafi Ithnin, Static electric field in the vicinity of a quantum dot, 2010 (Completed).

POSTDOCTORAL SUPERVISION

- Dr Faisal Salah Yousif Rasheed, Dept of Mathematics, University of Kordofan, Sudan. (2013-2014)
- Dr Akbar Banitelebi, UTM Centre for Industrial & Applied Mathematics (UTM-CIAM) (2017)
- Dr Shaymaa Mustapha, UTM Centre for Industrial & Applied Mathematics (UTM-CIAM) (2019).

PhD EXTERNAL EXAMINER

1. Patel Yogeshwari Fakirbhai, Application of Differential Transform Method to Compartment Modelling, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, India, 2017.
2. Sayed Aminuddin Irfan, Mathematical Modelling of Biodegradation of Biopolymer Coated Controlled Release Fertilizer, Universiti Teknologi Petronas (UTP), 2017.
3. Hussein Ali Mohammed Al-Sharifi, Numerical Solutions on Boundary Layer of Non-Newtonian Fluids over a Stretching Surface, Universiti Malaysia Pahang (UMP), 2017.
4. Nor Amirah Mohd Busul Aklan, Interaction of Solitons with External Potentials in the Generalized Nonlinear Schrodinger Equations, International Islamic University Malaysia (IIUM), 2017.

5. Akhlaq Ahmad, Complex Network Modelling and Analysis of Hajj Crowd and HERS-COV Outbreak, International Islamic University Malaysia (IIUM), 2017.
6. Yousef Mohammad Hammad Jawarneh, On Approximating of the Riemann-Stieltjes Double Integral, Faculty of Science & Technology, Universiti Kebangsaan Malaysia (UKM), 2015.
7. Abdul Waheed Mahesar, Modelling and Analysis of Illegal Immigrants Behaviour in Malaysia using Two-Mode and Scale-Free Networks, International Islamic University Malaysia (IIUM), Gombak, 2015.
8. Afzi Zaidi Mohamamad Sofi @ Aziz, Arah Carian Sejagat Kaedah Quasi-Newton Dalam Menyelesaikan Masalah Pengoptimuman Tak Berkekangan, Universiti Malaysia Terengganu (UMT), 2014.
9. Ambarka Abdalla Sahin, Oscillation Criteria for Forced Second Order Nonlinear Differential Equations, Universiti Kebangsaan Malaysia (UKM), 2014.
10. Farikhin, Model Peringkat Terturun bagi Sistem Berdinamik Linear Menggunakan Subruang Krylov dan kaedah Wavelet, Universiti Malaysia Terengganu (UMT), 2011.
11. Maha Mohamed Kasem El-Kojok, On Some Problems of Integral Equations and Integropartial Differential Equations with Fractional Orders, Alexandria University, Egypt, Aug. 2007.

MSc EXTERNAL EXAMINER

1. Fahmi Maulida, Underlying Event Measurement in tt Dilepton Channel with CMS Detector, University of Malaya (UM), 2017.
2. Norhaslinda Zull Pakkal, A New Spectral Conjugate Gradient and Its Global Convergence, Universiti Sultan Zainal Abidin (UniSZA), 2015.
3. Noriham Bujang, Optimal Harvesting Strategy for Tenualosa Toli in Sarawak using the Schaefer Model, Universiti Teknologi Mara (UiTM) Shah Alam, 2014.
4. Ridwan Pandiya, An Efficient Method for Discovering All the Extreme Points of Function with One Variable, Universiti Malaysia Terengganu (UMT), 2013.
5. Ong Jian Fuh, Neutrin -Electron Annihilation in the Higgs Triplet Model, Universiti Malaya (UM), Kuala Lumpur, 2012.

PhD INTERNAL EXAMINER

1. Yale Ibrahim Danjuma, Numerical Modelling of Two Phase Gas-Liquid Flow with Heat Transfer in a Pipe, July 2016.
2. Asma Khalid, Unsteady Free Convection Flow of Some Non-Newtonian Fluids Over an Oscillating Vertical Plate, Feb. 2016.
3. Kee Boon Hui, Various Aspects of Forced Solitons Interactions in Forced Korteweg De Vries Equation, May 2015.
4. Mawahib Hassan Ahmed Elfawal, Design and Optimization of the Standing-wave Thermoacoustic Refrigerator with Lagrange Multiplier Method, Oct. 2014.
5. Baba Galadima Agaie, Numerical Computation of Transient Hydrogen Natural Gas Mixture in a Pipeline using Reduced Order Modelling, Sept. 2014.
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PLENARY LECTURE/KEYNOTE ADDRESS

- **Z.A. Aziz**, Forum Plenary Speaker, Seminar Pembentukan Dasar Sains Matematik Negara (SPDSMN2025), Institut Sains Matematik, Universiti Malaya, K.L., 25-26 Nov. 2025.
- **Z.A. Aziz**, Seventh International Conference on Numerical Optimisation & Operation Research (ICNOOR VII), Hanoi, Veitnam, 31 Oct. - 2 Nov. 2016.
- **Z.A. Aziz**, The current scenario of industrial mathematics in Malaysia, Second International Conference on Mathematics, Engineering and Industrial Applications (ICoMEIA 2016), Thaksin University, Songkhla, Thailand, 10-12 Aug. 2016.
- **Z.A. Aziz**, Industrial mathematics: An enabling technology for Malaysian industries, Simposium Kebangsaan Sains Matematik ke 22: "Pengukuhan Penyelidikan dan Kolobarasi Sains Matematik di Malaysia", Institut Sains Matematik, Universiti Malaya & PERSAMA, Grand Blue Wave, Shah Alam, 24-26 Nov. 2014.

- **Z.A. Aziz**, Approximate analytical solutions of magnetohydrodynamics rotating flow of third grade fluid in porous space, paper presented at The 3rd International Conference on Global Optimization and its Applications (ICoGOIA 2014), Yogyakarta, Indonesia, 10-12 Sept 2014.
- **Z.A. Aziz**, M.I.A. Aziz, A. Banitalebi and A. Hamzah, Stochastic modelling for predicting the outcome of professional squash matches, paper presented at The 3rd International Conference on Global Optimization and its Applications (ICoGOIA 2014), Yogyakarta, Indonesia, 10-12 Sept 2014.
- **Z.A. Aziz**, Sine-Gordon alike model for Rayleigh wave collision and surface displacement, Fourth International Conference on Mathematics & Statistics, Universitas Malahayati, Bandar Lampung, Sumatera, Indoensia, 13-15 Aug. 2009.
- **Z.A. Aziz**, Feynman integral via concepts in integrable systems: theory and applications, Proceedings of The International Conference on Mathematics and the Natural Sciences 2006, Institut Teknologi Bandung (ITB), Bandung, Indonesia, 29-30 Nov. 2006.
- **Z.A. Aziz**, The integrability of KdV equation via Kirillov-Konstant-Souriau group theoretical approach, Proceedings of the First International Conference On Mathematics & Statistics, Bandung, Indonesia, 25 May 2006.
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- **Z.A. Aziz**, Kamiran Feynman dan sistem terkamir lengkap, Prosiding Seminar Mengenang Jasa Prof. Dr. Shaharir Mohd Zain, Universiti Kebangsaan Malaysia (UKM), Bangi, Selangor, 2004.

INVITED/GUEST SPEAKER

- **Z.A. Aziz**, ISMI 2024 & FMfI 2024 (International Seminar on Mathematics in Industry 2024 & Forum of Mathematics for Industry 2024), Kuala Lumpur, Malaysia, 9-11 September 2024.
- **Z.A. Aziz**, APCMfI and International Mathematical Commons for Asia Pacific region, 10th International Congress on Industrial and Applied Mathematics 2023 (ICIAM2023), Tokyo, Japan, 21-25 August 2023.
- **Z.A. Aziz**, Handling Uncertainties for Wastewater Treatment in Oxidation Pond, 10th International Congress on Industrial and Applied Mathematics 2023 (ICIAM2023), Tokyo, Japan, 21-25 August 2023.
- **Z.A. Aziz**, PDE Analysis on Real-World Problem – Groundwater Modelling, SIAM Conference on Computational Science and Engineering (SIAMCSE2023), Amsterdam, the Netherland, February 26-March 3, 2023.
- **Z.A. Aziz**, Advancement of Industrial Mathematics Framework in Malaysia, Science Seminar Series, Zoom Platform, 13 December 2022
- **Z.A. Aziz**, Construction & Analysis of a Mathematical Model within the Quadruple Helix Framework, UTMCIAM Quadruple Helix of Mathematical Modelling Seminar Series, Zoom Platform, 30 August 2022.
- **Z.A. Aziz,** Inspirational Talk: My Journey, UTMCIAM 10th Anniversary Celebration Dinner, 12 December 2022, Impiana Hotel, Senai, Johor, Malaysia.
- **Z.A. Aziz**, Development of Industrial Mathematics Infrastructure in Malaysia, Ceramah Perdana Bulanan AISMM, Zoom Platform, 8 December 2021.
- **Z.A. Aziz**, Entrepreneurship in Industrial Mathematics, Malaysia Industrial Mathematical Modelling Challenge 2021 (MIMMC2021), Webex Platform, 15 November 2021.
- **Z.A. Aziz,** Quadruple helix model for Industrial Mathematics infrastructures in Malaysia, 9th International Congress on Industrial and Applied Mathematics 2019 (ICIAM2019), Valencia, Spain, 15-19 July 2019.
- **Z.A. Aziz**, Challenge in applying quantitative analysis on bull semen quality in Malaysia, National Symposium on Mathematical Sciences 2015 (SKSM23), Pulai Springs Resort, Johor Bahru, 24-26 Nov. 2016.
- **Z.A. Aziz**, A review on magneto-rheological semi-active suspension system, International Conference on Mathematical Sciences and Statistics 2016, Sunway Putra Hotel, Kuala Lumpur, Malaysia, 26-28 Jan. 2016.

- **Z.A. Aziz**, The dawn of Malaysian mathematics in industry, Minisymposium APCMfI (Asia Pacific Consortium of Mathematics for Industry) session for ICIAM 2015 (International Congress on Industrial & Applied Mathematics 2015), Beijing, China, 10-14 Aug. 2015.
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