



## Dr. Hassan Yahya Alfifi

Professor in Applied mathematical  
Applied math and computation , Stability analysis & Bifurcations Theories and  
Numerical Methods

### Personal Data

Nationality | Saudi

Department | Department of General Courses, College of Applied Studies and Community Service.

Official Email | [hyalfifi@iau.edu.sa](mailto:hyalfifi@iau.edu.sa) – [cas.gcd@iau.edu.sa](mailto:cas.gcd@iau.edu.sa)

Office Phone No. | 32182

### Language Proficiency

Language	Read	Write	Speak
Arabic	Excellent	Excellent	Excellent
English	Good	Good	Good

### Academic Qualifications (Beginning with the most recent)

2013	PhD	University of Wollongong	Australia
2009	MD. Sci	University of Wollongong	Australia
2003	Bachelor of Mathematics.	University of Taif	Saudi Arabia

### PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	Semi-analytical solutions for delay partial differential equations.
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### Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work		Date
Professor	Department of General Courses	College of Applied Studies and Community Service – IAU -Saudi Arabia	2023 - Now
Associate Professor	Department of General Courses	College of Applied Studies and Community Service – IAU -Saudi Arabia	2021- 2023
Associate Professor	Basic Science Department,	Education College – IAU -Saudi Arabia	2018- 2021
Assistant Professor	Basic Science Department.	Education College – IAU -Saudi Arabia	2013- 2018
Lecturer	Mathematics Department	College of Education- University of Dammam.	2009-2012



Teacher	College of Education- University of Dammam.	Dammam-Saudi Arabia	2003-2007
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### Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Head of General Courses Department	College of Applied Studies and Community Service - IAU	2022- Now
Vice Deanship for Studies, Development and Community	Education College - IAU	2021- 2022
Vice Dean for Graduate Studies and Scientific Research	Education College - IAU	2018- 2022
Head of Basic Science Department	Department of Basic Science- Education College (Dammam) –IAU	2014-2022
Head of Basic Science Department	Department of Basic Science- PERP YEAR - IAU	2013-2014

### Scientific Achievements

- **Published Refereed Scientific Researches** (14 rewards for scientific publishing from the university's scientific council)

1. Alfifi, H. Y. Stability analysis and Hopf bifurcation for the two-species reaction-diffusion-advection competition system with delay. Under consideration to AMMODF Journal, 2024.
2. Alfifi, H. Y. Effects of diffusion and delayed immune response on dynamic behavior in a viral model. Appl. Math. Comput, 442:1-11, 2023.
3. Alfifi, H. Y. Stability analysis for Schnakenberg reaction-diffusion model with gene expression time delay, Chaos, Solitons and Fractals Chaos, 155 (2022), 111730.
4. Alfifi, H. Y. Stability and Hopf bifurcation analysis for the diffusive delay logistic population model with spatially heterogeneous environment. Appl. Math. Comput, 408:1-14, 2021.
5. Alfifi, H. Y. Semi-Analytical Solutions for the Diffusive Kaldor-Kalecki Business Cycle Model with a Time Delay for Gross Product and Capital Stock. Complexity, 1-10, 2021.
6. Alfifi, H. Y. Feedback Control for a Diffusive and Delayed Brusselator Model: Semi-Analytical Solutions. Symmetry, 13(4):1-13, 2021.
7. Alfifi, H. Y. The stability and Hopf bifurcation analysis for the delay diffusive neural networks model, The International Conference on Mathematical Sciences and Technology 2020 (MathTech 2020): Sustainable Development of Mathematics & Mathematics in Sustainability Revolution, The School of Mathematical Sciences, University Sains Malaysia, 8-10 December, 2020. (Proceeding # ID: AIPCP21-AR-MATHTECH2020-00016).
8. El-Moneim ,A. A. and Alfifi, H. Y. Germanate glasses containing lead and bismuth oxides: Correlation between elastic and compositional parameters. Journal of Non-Crystalline Solids, 546: 1-10,2020.
9. Alfifi, H. Y. Semi analytical solutions for the Diffusive Logistic Equation with Mixed Instantaneous and Delayed Density Dependence. Adv. Differ. Equ., 162:1-15, 2020.
10. El-Moneim ,A. A. and Alfifi, H. Y. On the analysis and prediction of elastic properties in alkali Na<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub>-V<sub>2</sub>O<sub>5</sub> glasses under the substitution of V<sub>2</sub>O<sub>5</sub> by Na<sub>2</sub>O. Physics and Chemistry of Glasses Science and Technology Part B., 60: 213-221,2019.
11. Alfifi, H. Y. Semi-analytical solutions for the delayed and diffusive viral infection model with logistic growth. J. Nonlinear Sci. Appl., 2019, 12(9): 589-601.
12. Alfifi, H. Y. and Marchant, T. R, Feedback Control for a Diffusive Delay Logistic Equation: semi-analytical solutions. 2018, IAENG International Journal of Applied Mathematics, 48(3): 317-323,2018.
13. Atta-ur-Rahman, Nahier Aldhafferi, Abdullah Alqahtani and H.Y.Alfifi. Adaptive Communication for Capacity Enhancement: A Hybrid Intelligent Approach. Journal of Computational and Theoretical Nanoscience , 2018, 15(4): 1182-1191.



14. El-Moneim ,A. A. and Alfifi, H. Y. A new factor for predicting the acoustical properties of oxide glasses. Physics and Chemistry of Glasses Science and Technology Part B., 2018, 59: 97-104.
15. El-Moneim ,A. A. and Alfifi, H. Y. Approach to dissociation energy and elastic properties of vanadate and V2O5-contained glasses from single bond strength: Part I.2018, Mater Chem Phy, 207: 271-281.
16. G.O. Malkawi, and H.Y. Alfifi, The Consistency of Fully Fuzzy Linear System ( $P - FFLS$ ), Proceedings of the 13<sup>th</sup> IMT-GT International Conference on Mathematics, Statistics and their Applications (ICMSA2017), Kedah, Malaysia, AIP Conference Proceedings 1905, 020004.
17. Alfifi, H. Y. Semi-analytical solutions for the Brusselator reaction-diffusion model. ANZIM J., 2017, 59(2): 167-182.
18. Alfifi, H. Y., Helal, O. and Mohammed, O. Principles of Mathematics, Al - Rashed, Riyadh , Kingdom of Saudi Arabia, 2017.
19. Alfifi, H. Y. and Abed, J. Factors Contributing to Students' Academic Performance in the Education College a Dammam University. 2017, Education J., 6(2): 77-83.
20. Alfifi, H. Y. Semi-analytical solutions for the delayed diffusive food-limited model. 2017, 7th International Conference on Modelling, Simulation, and Applied Optimization (ICMSAO), Sharjah, United Arab, Emirates, pages 1-5.
21. Alfifi, H. Y., Marchant, T. R, and Nelson, M. Non-smooth feedback control for Belousov-Zhabotinskii reaction-diffusion equations: semi-analytical solutions. 2016, J. Math Chem, 54:1632-1657.
22. Alfifi, H.Y., Ben Saad, I., Turki, S and Z.Z.El Abidine. Existence and Asymptotic Behavior of Positive Solutions for a Coupled System of Semilinear Fractional Differential Equations. 2017, Results. Math. 3(4): 705-730.
23. Alfifi, H. Y., Marchant, T. R and Nelson, M. I. Semi-analytical solutions for the 1- and 2-D diffusive Nicholson's blowflies equation. 2014, IMA J. Appl. Math. 79: 175-199.
24. Alfifi, H. Y., Marchant, T. R and Nelson, M. I. 2012, Generalised diffusive delay logistic equations: semi-analytical solutions. Dynam. Cont. Dis. Ser. B, 19:579-596.

- **Contribution to Scientific Conferences and Symposia**

- 1- HPC Saudi 2022 conference, held on Sep 27-29, 2022, College of Computer Science and Information Technology , Imam Abdulrahman Bin Faisal University, Kingdom of Saudi Arabia.
- 2- 5th Conference on Mathematical Science and Applications (CMSA), 17-18 November, 2021, Saudi Association for Mathematical Sciences(SAMS) in collaboration with KAUST, King Abdullah University of Science and Technology (KAUST), Kingdom of Saudi Arabia
- 3- The Second International Conference of Mathematics and its Applications (ICMA2021), 19-20 October, 2021, School of Mathematics and Statistics , King Khalid University, Abha, Kingdom of Saudi Arabia.
- 4- The International Conference on Mathematical Sciences and Technology 2020 (MathTech 2020): Sustainable Development of Mathematics & Mathematics in Sustainability Revolution, 8 -10 December, 2020, School of Mathematical Sciences, University Sains, Malaysia.
- 5- 2<sup>nd</sup> Forum of educational affairs in the Eastern Region, 28-29 Mar 2019, Imam Abdulrahman Bin Faisal University.
- 6- The 1<sup>st</sup> Meeting of Mathematics Departments in Saudi Universities , 13 Apr 2019, KAUST, Saudi Arabia.
- 7- 13<sup>th</sup> IMT-GT International Conference on Mathematics, Statistics and their Applications (ICMSA2017), 1 - 2 December 2017, Kedah, Malaysia, AIP Conference Proceedings 1905, 020004.
- 8- 7th International Conference on Modelling, Simulation, and Applied Optimization (ICMSAO), 2 - 4 April 2017, Sharjah, United Arab, Emirates.
- 9- First National Conference for Social networks: Awareness and Prevention, 11 November 2015, University of Dammam , Kingdom of Saudi Arabia.
- 10- 2015 SIAM Conference on Applications of Dynamical Systems, 17 - 21 May 2015, Snowbird Ski and Summer Resort, Snowbird, Utah, USA.
- 11- First National Conference for Prep Year in Saudi Universities, 22 - 23 April 2015, Dammam , Kingdom of Saudi Arabia.



- 12- International Exhibition & Conferences on Higher Education, 15 - 18 April 2014, Riyadh , Kingdom of Saudi Arabia.
- 13- Cairo International Book Exhibition (45), 22 January - 4 February 2014, Cairo , Egypt.
- 14- ANZIAM 2011, Australia and New Zealand Industrial Applied Mathematics, 30 January - 3 February 2011 at Stamford Grand Hotel, Glenelg, South Australia.
- 15- 2010 ACT & NSW Joint Mini-meeting, 3 - 4 December 2010 , Berry Village Boutique Hotel, NSW, Australia.
- 16- NSW Joint Mini-meeting, 15 November 2012 ,University of Wollongong, NSW, Australia.

• **Membership of Scientific and Professional Societies and Organizations:**

- Member of SAIM ORGNZATION from 2009- Now
- Member in Australian Mathematical Society AUST MS – 2010- NOW

**Teaching Activities** (A certificate of excellence in teaching by e-learning courses (mathematics principles) from the Deanship of E-Learning and Distance Education 2019)

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Plane Geometry	403 MATH	lecture
2	Al Jabra	231 MATH	lecture
3	ODEs& PDEs	In old plan	lecture
4	Numerical analysis	In old plan	lecture
5	Calculus 1, 2, 3	In old plan	lecture

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	to
1	3	30	2004	2007
2	2	7	First term of academic year	Now

• **Workshops and training courses**

- 1- Workshop on “Learning outcomes measurement using Blackboard”, 20-Feb 2023, Deanship of E - learning at IAU.
- 2- Workshop on “How to select the right journal for you in Scopus? ”, 14-Feb 2023, Presented by Senior Regional Consultant - RI, Elsevier Researcher Academy.
- 3- Workshop on “Cloud computing ”, 31-Jan & 1-Feb 2023, Deanship of Information and Communication Technology at IAU.
- 4- Workshop on “Building the course menu in Blackboard ”, 31-Jan 2023, Deanship of E - learning at IAU.
- 5- Workshop on “Preparation and Management Electronic Examinations ”, Jan 2023, Deanship of E - learning at IAU.
- 6- Workshop on “ Effective Leadership”, 06 Sep 2022, Academic Leadership Centre - IAU.
- 7- Workshop on “ Summon Discovery Tool”, 14 Dec 2021, The Deanship of Library Affairs at University of IAU.



- 8- Workshop on "Specific Databases (Arabic & English)", 1 Nov 2021, The Deanship of Library Affairs at University of IAU.
- 9- Workshop on " Advanced EBooks Searching ", 21 Oct 2021, The Deanship of Library Affairs at University of IAU.
- 10- Workshop on " Introduction of Summon", 19 Oct 2021, The Deanship of Library Affairs at University of IAU.
- 11- Workshop on "Professional Fellowship in University Teaching and Learning (PFUTL) Information Session (Information/Q & A)", 20 Sep 2021, The Deanship of Academic Development at University of IAU.
- 12- Workshop on "Positive Thinking (key to excellence)", 20 Sep 2021, The Deanship of Academic Development at University of IAU.
- 13- Workshop on " Activate Google Extensions in Education", 14 Sep 2021, The Deanship of Academic Development at University of IAU.
- 14- Workshop on " Facilitating Metacognitive Strategies in the Classroom", 7 Jun 2021, The Deanship of Library Affairs at University of IAU.
- 15- Workshop on " Effective Strategies for Team-Based Learning", 25 May 2021, The Deanship of Library Affairs at University of IAU.
- 16- Workshop on " Scientific applications for publishing in Scopus databases", 27 Jan 2021, The Deanship of Library Affairs at University of IAU.
- 17- Workshop on " Blackboard - advanced ", 15 Sep 2020, The Deanship of Academic Development at University of IAU.
- 18- Workshop on "The role of the faculty member in developing professional performance", 14 Sep 2020, The Deanship of Academic Development at University of IAU.
- 19- Workshop on "High-Quality Assessment through the Use of Rubrics", 9 Sep 2020, The Deanship of Academic Development at University of IAU.
- 20- Workshop on "Teaching the 21st Century Skills in the Classroom", 30 Aug 2020, The Deanship of Academic Development at University of IAU.
- 21- Workshop on " Boosting Innovation and Entrepreneurship in University Education", 13-14 Nov 2019, The Deanship of Academic Development at University of IAU (Finland University).
- 22- Workshop on " Finnish Education Success in Entrepreneurship and Innovation ", 12 Nov 2019, The Deanship of Academic Development at University of IAU.
- 23- Workshop on "How to use Question Mark Tools in the Blackboard", 9 Oct 2019, Deanship of E - learning , Imam Abdulrahman Bin Faisal University.
- 24- Workshop on "Teacher Preparation Programs in Saudi Universities", 25-26 Mar 2019, Ministry of Education. Riyadh-Saudi Arabia.
- 25- Workshop on "SWOT Analysis for Deanship of Faculty and Personnel Affairs ", 13 Feb 2019, Deanship of E - learning , Imam Abdulrahman Bin Faisal University.
- 26- Workshop on "Experience of the University of Melbourne in Australia for the renewal of teacher preparation programs", 20-21 Jan 2019, Ministry of Education. Riyadh-Saudi Arabia.
- 27- Workshop on "Advanced courses in E-learning program ", 9 -10 Jan 2018, Deanship of E - learning , Imam Abdulrahman Bin Faisal University.
- 28- Workshop on "Advanced Academic Leadership Forum", 3 -4 Dec 2017, Academic Leadership Centre - Ministry of Education (Riyadh-Saudi Arabia).
- 29- Workshop on "Decision making and problem solving", 26 Nov 2017, Academic Leadership Centre - Ministry of Education (Khobar-Saudi Arabia).
- 30- Workshop on "Academic Leadership Forum in Higher Education", 4 -6 Dec 2016, Academic Leadership Centre - Ministry of Education (Riyadh-Saudi Arabia).
- 31- Workshop on "The Essential Academic Leader", 17-16 Oct 2016, Academic Leadership Centre - Ministry of Education (Khobar-Saudi Arabia).
- 32- Workshop on "Positive Academic Leadership", 22 Oct 2015, Academic Leadership Centre - Ministry of Education (Khobar-Saudi Arabia).



- 33- Workshop on "Promoting Innovation in Higher Education", 15-16 Feb 2015, Academic Leadership Centre - Ministry of Education (Khobar-Saudi Arabia).
- 34- Developing Core Competencies in Teaching and Learning in Higher Education (Training Course), 26-29 Jan 2015, The Deanship of Academic Development at University of Dammam.
- 35- Workshop on "Optimize the Use of Web Science's Services", 18 December 2014, Vice Presidency for Postgraduate Studies and Scientific Research at University of Dammam with Thomson Reuters.
- 36- Workshop on "Learning How to Use Endnote", 17 December 2014, Vice Presidency for Postgraduate Studies and Scientific Research at University of Dammam with Thomson Reuters.
- 37- Teacher for Creativity & Innovation Workshop, 17-18 November 2014, The Deanship of Academic Development at University of Dammam.
- 38- Workshop on " How to Publish Your Research", 12 November 2014, The Deanship of Library Affairs at University of Dammam.
- 39- Workshop on "Evaluating Students on Blackboard Program", 7 November 2014, The Deanship of Academic Development at University of Dammam.
- 40- Academic Leader Effective Skills (Training Course), 15-19 June 2014, Hold by Birtish Learning Centre in Istanbul - Turkey.
- 41- SPSS Program Workshop (Statistical Package for the Social Sciences), 7 July 2012, University of Wollongong (Australia).
- 42- Maple Program Workshop (Package for the Social Sciences), 2011, University of Wollongong (Australia).
- 43- English Language Course, 26 June - 21 July 2006, EF International School of English, Auckland, New Zealand.
- 44- English Language Course, 25 December - 2 April 2005, Direct English, Al Khobar, Kingdom of Saudi Arabia.
- 45- Workshop on "Ten Key Skills for Academic Success and Excellence", 19 March 2005, The Teachers' College Dammam, Kingdom of Saudi Arabia.
- 46- Critical and Creative Thinking Workshop, 18 March 2005, The Teachers' College Dammam, Kingdom of Saudi Arabia.
- 47- Scholarship Course, 19 - 30 March 2005, Dhahran, Saudi Arabia.

## Administrative Responsibilities, Committee and Community Service

### Committee Membership

#	From	To	Position	Organization
1	2022	Now	Head of General Courses Department	College of Applied Studies and Community Service - IAU
2	2018	2022	Vice Dean for Graduate Studies and Scientific Research	Education college - IAU
3	2021	2022	Vice Deanship for Studies, Development and Community	Education college - IAU
4	2014	2022	Head (Council of the Department of Basic Science)	Education College - IAU
5	2018	2022	Member of the Student Behavior Committee at the College of Education	Education College - IAU
6	2016	Now	Member of the standing committee (Standing committee on basic Science)	Ministry of Civil Service -Riyadh
7	2018	2020	Member of the curriculum building team for ( the grade teacher) preparation program for the primary, middle and secondary levels	Ministry of Education -Riyadh
8	2020	Now	Member of the committee for preparing	Deanship of Scientific Research



			the strategic plan and risk management plan for the Deanship of Scientific Research	
9	2020	2021	Member Scientific Council of IAU	Scientific Council of IAU
10	2021	2022	Member of the Inter-Programs Committee for Postgraduate Studies between the College of Education and the College of Human Studies in Jubail	Vice President for Postgraduate Studies and Scientific Research
11	2021	2021	Member of the committee to study the current status of the publication of scientific graduate students at the University	Vice President for Postgraduate Studies and Scientific Research
12	2013	2014	Head (Council of the Department of Basic Science)	PERP YEAR - IAU (Dammam University)
13	2014	2015	Member of the quality unit	Education college - IAU

Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

1	Maple
2	Gun plot, Tikplot
3	Latex

Last Update

.....12.../2023