



CURRICULUM VITAE

Ayed Hussein Huwail Al e'damat

Aug.2026

PERSONAL

Place of Birth Alkom Al Ahmar ,Um Algmal, Mafraq, Jordan
Date of Birth January 1, 1976
Marital Status Married
Nationality Jordanian
Work Address Department of Mathematics, College of Science,
Al-Hussein Bin Talal University, Ma'an, Jordan.
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Academic Rank (date) Professor (2025)
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ACADEMIC QUALIFICATIONS

2009 – 2013 **Ph.D.**, Mathematical Analysis, Damascus University, Damascus, Syria.
2002 – 2005 **M.Sc.**, Mathematics, AL al-Bayt University, Mafraq, Jordan.
1994 – 1998 **B.Sc.**, Mathematics, Yarmouk University, Irbid, Jordan.

SPECIALTY

General Specialization: Mathematics
Specialization : Mathematical Analysis

CAREER HISTORY

29/8/1999- 13/9/2008 **Teacher** , Jordan Ministry of Education
14/9/2008- 6/9/2014 **Mathematics Supervisor**, Jordan Ministry of Education
7/9/ 2014 –8/11/2015 **Lecturer** , Department of Mathematics, College of Science,
Al-Hussein Bin Talal University, Ma'an, Jordan.
9/11/2015-23/6/2020 **Assistance Professor**, Department of Mathematics, College
of Science, Al-Hussein Bin Talal University, Ma'an, Jordan



Ayed Al e'damat C.V.



24/6/2020- 28/7/2025

Associate Professor, Department of Mathematics, College of Science, Al-Hussein Bin Talal University, Ma'an, Jordan

28/7/2025- Now

Professor, Department of Mathematics, College of Science, Al-Hussein Bin Talal University, Ma'an, Jordan

ADMINISTRATIVE EXPERIENCE

Positions AHU

4/4/ 2017 – 17/9/ 2018

Chairman of Mathematics Department, College of Science, Al-Hussein Bin Talal University, Ma'an, Jordan

17/11/2021- 16/11/ 2022

Member of Al Hussein Bin Talal University Council.

Committees

2014 – Now

Member of the Mathematics Department Council.

2015-2016

Representative of the Mathematics Department in the College of Science Council.

2019-2020

Member of the Social Committee at the College of Science

2014-2024

Member of the Social Committee at the Mathematics Department.

2017-2024

Graduate Student Mathematics Committee, Member

PROFESSIONAL MEMBERSHIPS AND SERVICES

Membership(s)

- Member of the Alkom Al ahmar Sports Social Club.
- Member of the Alkom Al ahmar Association for Social Development.
- Member of Amnesty International.



RESEARCH INTEREST

- Mathematical Analysis:
(Differential Equations, Numerical Analysis, Measure Theory, Complex Analysis and Functional Analysis).
- Applied Mathematics: Computational Mathematics studies and modelling.
- Statistics and Applications.

PUBLICATIONS

Peer-reviewed journal articles

- 1) **Ayed Al e'damat**, Waseem Ahmad Khan, Ugur Duran, Cheon-Seoung Ryoo, Alaa Rawajfeh, (2025), Generalized properties of degenerate hyperharmonic numbers, **Journal of Mathematics and Computer Science**, Volume 40, Issue 4, p.p.273–291
<https://dx.doi.org/10.22436/jmcs.040.02.08>
- 2) A. Alidmat, **Ayed AL e'damat**, N. Mashaqbh, K. Ul Islam Rather, A comparative Analysis of Traditional Statistical and Machine Learning Approaches for Salinity Prediction, **Caspian Journal of Mathematical Sciences**, University of Mazandaran, (2026).
- 3) R. AL Gounmeein, **Ayed AL E'damat**, K. Ul Islam Rather, An Optimally Allocated Two-Stage Stratified Randomized Response Strategy for efficient Estimation of Sensitive Proportions, **Caspian Journal of Mathematical Sciences**, University of Mazandaran, (2026).
- 4) **Ayed Al e'damat**, Waseem Ahmad Khan, Naeem Ahmad and Ugur Duran, (2025), Generalized Degenerate Fubini-Euler-Genocchi Polynomials, **Journal of Inequalities and Special Functions**, Volume 16, Issue 2, p.p.26–38.
- 5) **Ayed Al e'damat**, Waseem Ahmad Khan and Ugur Duran, (2025), Some Properties of Gould-Hopper Based poly-Euler Polynomials with a q-Parameter, ICMMAAC2024, p.p.134–146. http://dx.doi.org/10.1007/978-3-031-90914-6_11



- 6) Ahmad Awad Alhabahbeh, **Ayed AL e'damat**, Ala' Alrawajfi, Roohul Andrabi, Khalid Ul Islam Rather and Carlos N. Bouza, Enhancing Financial Risk Analysis with Multivariate Distribution Modeling, *Revista Investigacion Operacional*, Vol. 46, No. 4, 571-577, (2025).
- 7) **Ayed Al e'damat**, Waseem Ahmad Khan and Cheon Seoung Ryoo, (2024), Certain properties on Bell-based Apostol-type Frobenius-Genocchi polynomials of complex variable, **Journal of Mathematics and Computer Science**, Volume 33, Issue 4, p.p.326–338.
- 8) **Ayed Al e'damat**, Waseem Ahmad Khan, Ugur Duran, Syed Ajaz K. Kirmani and Cheon Seoung Ryoo, (2024), Exploring the depths of degenerate hyper-harmonic numbers in view of harmonic functions, **Journal of Mathematics and Computer Science**, Volume 35, Issue 2, p.p. 136–148.
- 9) **Ayed Al e'damat**, Waseem Ahmad Khan, Ugur Duran and Cheon Seoung Ryoo, (2024), Construction for q-hypergeometric Bernoulli polynomials of a complex variable with applications computer modeling, **Advanced Mathematical Models & Applications**, Vol.9, No.1, p.p. 68-92.
- 10) **Ayed Al e'damat**, Jihad Younis and Ashish Verma, (2024), Recursion formulas for Humbert's matrix functions, **Italian Journal of Pure and Applied Mathematics**, No.51, p.p.1–17.
- 11) **Ayed al e'damat**, (2020), Approximate Analytical Solution for a Coupled System of Fractional Nonlinear Integrodifferential Equations by the RPS Method, **Complexity**, Volume 2020, Article ID 1010382, p.p. 1-8.
- 12) **Ayed al e'damat** and Shehata, A., (2023), On Bibasic Humbert Hypergeometric Function Φ_1 , **Malaysian Journal of Mathematical Sciences**, 17(1): p.p. 77–86.
- 13) **Ayed Al e'damat**, Ashish Verma, Jihad Younis, and Hassen Aydi, (2023), Some Properties of Incomplete First Appell Hypergeometric Matrix Functions, **Applied mathematics and Information Sciences**, 17, No. 3, p.p. 499-505.
- 14) **Ayed Al e'damat** and Jihad Younis, (2023), Linear Independent Solutions and Recursion Formulas for The Quadruple Hypergeometric Functions $X_{31}^{(4)}$, **International Journal of Applied Mathematics**, Volume 36 No. 3, p.p. 323-334.



- 15) Khalid Ul Islam Rather, **Ayed AL e'damat**, Tanveer Ahmad Tarray and M. Iqbal Jeelani, A New-Fangled Ratio-Type Exponential Estimator for Population Variance using Auxiliary Information, J. Stat. Appl. Pro. 12, No. 2, p.p. 629-633 (2023).
- 16) M. Iqbal Jeelani, **Ayed AL e'damat**, Imran Rashid, S. N Zafar Geelani, Afshan Tabassum and Khalid Ul Islam Rather, Evaluation of Ranked Set Sampling Methods under Skewed and Unskewed Distributions, J. Stat. Appl. Pro. 12, No. 2, p.p. 817-837 (2023).
- 17) **Ayed AL e'damat**, Roohul Andrabi, Tundo, Rajes Khana, Joko Sutopo, Andi Saidah, Tiorivaldi and Emilia Roza, An Adroit Stratified Unrelated Question Randomized Response Model with Assorted Strategies, J. Stat. Appl. Pro. Lett. 11, No. 3, 145-166 (2024).
- 18) **Ayed AL e'damat** and Khalid Ul Islam Rather, A new Exponential Type Ratio Estimator for the Population Mean in Systematic Sampling, **RT&A**, No 3 (74) Volume 18, p.p. 442-449, September (2023).
- 19) Ghaleb Gumah, Zuhier Altawallbeh, **Ayed Al e'damat**, and A. Atewi " An Alternative Proof of the Spectral Radius Inequality for Products of Hilbert Space Operators" Australian Journal of Basic and Applied Sciences, **Vol. 8(18), PP. 462 – 465, 2014.**
- 20) **Ayed Al e'damat**, Analytical- numerical method for solving a class of two- point boundary value problems, **International Journal of Mathematical Analysis**, **Vol. 9, no. 40 , 1987-2002 , 2015.**
- 21) I.V. Komashynska, M. Al-Smadi, A.M. Atewi and **Ayed Al e'damat** " Oscillations of solutions of nonlinear second-order stochastic differential equations", **Journal of computational analysis and applications** **Vol.20, No. 5, p. 860-868, 2016.**
- 22) Ali Atewi, **Ayed Al e'damat**, Asad Freihat, Iryna Komashynska, Approximation scheme for handling coupled systems of Differential Equations within Reproducing Kernel Method, **Filomat**, **33; 2, page 599-615, 2019.**
- 23) **Ayed Al e'damat**, Ala' Alrawajf, Adeeb talafha, Ahmad Alhabahbeh, Ali Atewi, Numerical simulation of nonlinear fractional integrodifferential equations of Volterra type via power series expansion, **Italian journal of pure and mathematics**, **N. 43, page 944 – 957, 2020.**



- 24) Mohammad Q. Owaidat, Ahmed A. Qwasmeh, **Ayed Al e'damat**, Spanning Trees on Decorated Centered Cubic Lattices, ***Applied mathematical sciences* Vo.9, no.25, 1335 – 1244, 2015.**

Books and book chapters

- **Ayed Al e'damat** , Mohammed Al-Smadi , Iryna Komashynska, Ali Ateiwi and Ala' Alrawajf , Analytical-Numerical Solutions for First-Order Periodic Boundary Value Problems Using the Reproducing Kernel Algorithm. ***Springer Proceedings in Mathematics & Statistics***, Volume 164, Springer International Publishing Switzerland 2016.

CONFERENCES AND PROCEEDINGS _____

1. ***The 8th International Conference on advances in natural and applied science***, Antalya, Turkey, **October 28 -31, 2025.**
2. ***The 7th International Conference on Mathematical Modelling, Applied Analysis and Computation***, Beirut, Lebanon, **Lebanese American University between April 18 and 20, 2024.**
3. ***The Euro – Arab Organization for Environment, water, and Desert Researches, The Third International Conference of Science and Engineering***, Antalya, Turkey, **October 24 -28, 2019.**
4. ***International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2017)***, Istanbul Commerce University, the Turkish Academy of Science (TUBA), Kusadasi - AYDIN/**TURKEY**, May 11-15, **2017.**
5. ***International Conference on Differential and Difference Equations and Applications. Military academy***, Amadora, **Portugal**, May 18-22, **2015.**
6. ***The International Arab Conference on mathematics and computations "IACMC"***, Zarqa University, **Jordan**, Apr.23-25, **2014.**



7. **Ayed Al e'damat**, Mohammed Al-Smadi, Iryna Komashynska, Ali Atewi and Ala' Alrawajf, Analytical-Numerical Solutions for First-Order Periodic Boundary Value Problems Using the Reproducing Kernel Algorithm. ***Springer Proceedings in Mathematics & Statistics***, Volume 164, Springer International Publishing Switzerland 2016.

TEACHING

Courses Taught-undergraduate

- 1) Calculus1 (0302101), Al Hussein Bin Talal University.
- 2) Pre-Calculus (0302099), Al Hussein Bin Talal University.
- 3) History of Mathematics (0302100) Al Hussein Bin Talal University
- 4) Calculus1 (0302101), Al Hussein Bin Talal University.
- 5) Calculus2 (0302102), Al Hussein Bin Talal University.
- 6) Calculus3 (0302201), Al Hussein Bin Talal University.
- 7) Ordinary Differential Equations (0302203), Al Hussein Bin Talal University.
- 8) Partial Differential Equation (0302301), Al Hussein Bin Talal University.
- 9) Advanced Calculus (0302207), Al Hussein Bin Talal University.
- 10) Real Analysis (0302215), Al Hussein Bin Talal University.
- 11) Real Analysis1 (0302216), Al Hussein Bin Talal University.
- 12) Real Analysis2 (0302316), Al Hussein Bin Talal University.
- 13) Mathematical Analysis1 (0302315), Al Hussein Bin Talal University.
- 14) Linear Algebra 2 (0302341) Al Hussein Bin Talal University.
- 15) Mathematical Analysis2 (0302415), Al Hussein Bin Talal University.
- 16) Complex Analysis1 (0302312), Al Hussein Bin Talal University.
- 17) Number Theory (0302343), Al Hussein Bin Talal University.
- 18) Topology (0302362), Al Hussein Bin Talal University.
- 19) Functional Analysis (0302412), Al Hussein Bin Talal University.
- 20) Differential Geometry (0302361), Al Hussein Bin Talal University.
- 21) Special Topics in Mathematics (0302407). Al Hussein Bin Talal University.
- 22) Special Topics in Equations (0302401). Al Hussein Bin Talal University



Courses Taught-postgraduate

- 23) Measure Theory and Integration (0302611), Al Hussein Bin Talal University.
- 24) Functional Analysis (0302612), Al Hussein Bin Talal University.
- 25) Special Subjects in Functional Analysis (0302619), Al Hussein Bin Talal University .

SKILLS_____

Languages

- Arabic (native)
- English (excellent)

Computer Programs

- 1- ICDL, Ministry of Education, Jordan.
- 2- Mathematica, Zarqa University, Jordan .

Courses and workshops

- 1- **End Note Program** (6 hours), Staff Development Center, Al Hussein Bin Talal University, **30/7/2017 - 1/8/2017**.
- 2- **Development of competencies of the performance of faculty members**, (30 hours), Staff Development Center, Al Hussein Bin Talal University **4/2/2018 - 8/2/2018**.
- 3- **The right bases in the teaching process**, (10 hours), Staff Development Center, Al Hussein Bin Talal University, **8/2/2018 - 14/2/2018**.

Master Thesis Supervisor:

- 1- Supervisor for Khaled Bakheet Al-Smeheen **A study of Bounded and Continuous Linear Operator in Random Normed Space**. Al-Hussein Bin Talal University.
- 2- Supervisor for Salem Jihad Bni Ali, **Sobolev space; Theories and Applications**. Al-Hussein Bin Talal University.
- 3-Supervisor for Ameera Saleh Batayneh, **Lp Spaces; Definitions, Properties and Applications**. Al-Hussein Bin Talal University.



- 4- Supervisor for Rojana Al nawafleh, **Study About Fredholm Operators In Sobolev Spaces.** Al-Hussein Bin Talal University.
- 5- Supervisor, Hala Saleh Al saeedyeen, **Some Important Inequality In Sobolev Spaces and It's Applications,** Al-Hussein Bin Talal University.
- 6- Supervisor, Rawan Al darawsheh, **A Study About Compact Operators and Singular Value Decoposition In some Measure Spaces,** Al-Hussein Bin Talal University.
- 7- Supervisor, Suhaib Al Harahsheh, **A Study about Fourier Analysis and Measure Theory,** Al-Hussein Bin Talal University.
- 8- Supervisor, Abdullah Hikmat Mardi AL-khreshah, **Continuity of Solutions to Boundary Value Problems for Systems of Ordinary Differential Equations in Sobolev Spaces,** Al-Hussein Bin Talal University.
- 9 - Supervisor, Rawan Hashem Al Shaibat, **Fuzzy Measurable Spaces.** Al-Hussein Bin Talal University.
- 10- Supervisor, Alaa Al shqerat, **Convergence And Boundedness In Fuzzy Measure Spaces,** Al-Hussein Bin Talal University.
- 11- Supervisor, Sajeda Al tawaheh, **A Study About Fourier Analysis On Finite Commutative Group,** Al-Hussein Bin Talal University.
- 12- Supervisor Yahia Eid Ali Alkhderat, **Fourier Analysis on Discrete and Continuous Functions,** Al-Hussein Bin Talal University.
- 13- Supervisor, Esmat Ref`at Hasan Ibrahim, **Mittage Lefler Function In Function In Fractional Calculus; Properties and Applications,** Al-Hussein Bin Talal University.