

SHAMESEDDIN ALSHORMAN

Calgary, Canada

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Shameseddin Alshorman

Biography

PhD student in Mechanical and Manufacturing Engineering at the University of Calgary, specializing in fluid dynamics, aerodynamics, and computational modeling. Passionate about advancing innovative solutions in physical fluid dynamics and vortex flow analysis. Dedicated to research that bridges theoretical understanding and practical engineering applications.

Education

University of Calgary

Department of Mechanical & Manufacturing Engineering

- PhD Candidate.

Calgary, Canada

Jan 2025 - Jan 2029

Yarmouk University

Higher diploma in Curriculum for Teaching Mathematics

- I studied the necessary skills, including the use of manipulatives, virtual environments, computer algebra systems, and ICT.

IRBID, JORDAN

Sep 2022 - Sep 2023

Al Al-Bayt University

Master of Science Mathematics

- I got my Master's in Mathematics and published my thesis in abstract algebra titled: Finite Groups in Which Every Commutator Element is Central.
- Specialized in abstract algebra, and published several research papers in my field. I am also one of the first in my class.

MAFRAQ, JORDAN

Sep 2019 - Aug 2021

Al Al-Bayt University

Bachelor of Science Mathematics

- I got my BA in Mathematics, and I got honors upon graduation for being one of the top graduates in my class.

MAFRAQ, JORDAN

Sep 2016 - Sep 2019

Work Experience

Al-Motaqadimah Schools – Smart Learning

STEAM Teacher and Math Teacher

- Teach advanced mathematics to higher-grade students and develop innovative STEAM activities to enhance critical thinking and problem-solving skills.

Riyadh, Saudi Arabia

May 2024 - December 2024

Al-Zaytoonah University of Jordan

Research Assistant (RA)

- Writing and publishing specialized scientific research in mathematics within the mathematics department at the university and supervising, checking, and amending student research in the department.

AMMAN-JORDAN

September 2022 - February 2024

Innovation and Entrepreneurship Center for Educational Consultations

Head manager

- The Innovation and Entrepreneurship Center for Educational Consultations I-ecec was founded in 2022 as a non-governmental, non-profit organization and academic educational consultations center.

AMMAN-JORDAN

Since June 2022

ARID SCIENTIFIC LTD

Mathematics Researcher

- The General Secretariat of the ARID platform for Arabic-speaking scholars, experts, and researchers grant me the official ARID Scientific membership with the researcher's ID number, according to the terms and conditions.

MALAYSIA, UK.

Since January 2022

AL WATAN AL ARABI SCHOOL

Mathematics teacher

- I was working as a mathematics teacher for high school students.

AMMAN-JORDAN

The first semester of 2023/2024

Skills

Mathematical Expertise

- Fractional Analysis: In-depth understanding and research experience in fractional calculus and analysis.
- Abstract Algebra: Strong foundation and advanced knowledge in abstract algebra, including group theory and ring theory.

Programming and Technical Tools

- Programming Languages: Familiarity with Python, C++, MATLAB.
- Mathematical Software: Proficient in using Gap, Mathematica, and SPSS.

Additional Skills

- Time Management: Effective organization and time management skills for balancing academic research and managerial responsibilities. Also, I'm a quick learner, and adaptable to new technologies, methodologies, and environments.

1 Dissertations and Research papers

1.1 Master thesis (Abstract Algebra)

Groups in Which the Commutator Subgroup is Cyclic

Shameseddin, Alshorm

International Conference on Mathematics and Computations, 2022

Finite Groups In Which Every Commutator Element Is Central

Shameseddin Alshorm, Khaled Al-sharo

Mathematics Department (2021) p. 34. Al al-Bayt University. <http://dx.doi.org/10.13140/RG.2.2.33517.10727>, 2021

1.2 Journal Articles

Comparative Analysis of Bilinear Time Series Models with Time-Varying and Symmetric GARCH Coefficients: Estimation and Simulation

Ma'mon Abu Hammad, Rami Alkhateeb, Nabil Laiche, Adel Ouannas, **Shameseddin Alshorm**

Symmetry 16.5 (2024) p. 581. MDPI, 2024

Theoretical analysis of a class of φ -Caputo fractional differential equations in Banach space

Ma'mon Abu Hammad, Oualid Zentar, **Shameseddin Alshorm**, Mohamed Ziane, Ismail Zitouni

AIMS Mathematics 9.3 (2024) pp. 6411–6423. 2024

Novel Insights into Estimation of Bilinear Time Series Models with Exponential and Symmetric Coefficients

Mamon Abu Hammad, Nabil Laiche, Omar Alomari, Huthaifa Abuhammad, **Shameseddin Alshorm**

Symmetry 16.4 (2024) p. 405. MDPI, 2024

Two Energy groups Neutron Diffusion Model in Spherical Reactors

Iqbal Batiha, Mohammed Shqair, Mohammed HE Abu-Sei'leek, **Shameseddin Alshorm**, SA Abd El-Azeem, Shaher Momani

Results in Nonlinear Analysis 7.2 (2024) pp. 160–173. 2024

A simple harmonic quantum oscillator: fractionalization and solution

Iqbal M Batiha, Iqbal H Jebril, Abeer A Al-Nana, **Shameseddin Alshorm**

Mathematical Models in Engineering 10.1 (2024) pp. 26–34. Extrica, 2024

Numerical Approach for Solving Incommensurate Higher-Order Fractional Differential Equations

Iqbal M Batiha, Iqbal H Jebril, **Shameseddin Alshorm**, Mazin Aljazzazi, Shawkat Alkhazaleh

Nonlinear Dynamics and Systems Theory 24.2 (2024) p. 123. 2024

On Generalized Matrix Mittag-Leffler Function

Iqbal M Batiha, Iqbal H Jebril, **Shameseddin Alshorm**, Nidal Anakira, Shawkat Alkhazaleh

IAENG International Journal of Applied Mathematics 54.3 (2024) pp. 576–580. 2024

HANDLING SYSTEMS OF FRACTIONAL STOCHASTIC DIFFERENTIAL EQUATIONS USING MODIFIED FRACTIONAL EULER METHOD

IQBAL M BATIHA, IQBAL H JEBRIL, **Shameseddin Alshorm**, ABEER A AL-NANA, SHAWKAT ALKHAZALEH, SHAHER MOMANI

Global and Stochastic Analysis 11.1 (2024). 2024

Conformable Fractional Inverse Gamma Distribution

Mamon Abu Hammad, **Shameseddin Alshorm**, Sondos Rasem, Lena Abed

Nonlinear Dynamics and Systems Theory 24.2 (2024) p. 159. 2024

A Numerical Implementation of Fractional-Order PID Controllers for Autonomous Vehicles

Iqbal M Batiha, Osama Y Ababneh, Abeer A Al-Nana, Waseem G Alshanti, **Shameseddin Alshorm**, Shaher Momani

Axioms 12.3 (2023) p. 306. MDPI, 2023

SEMI-ANALYTICAL SOLUTION TO A COUPLED LINEAR INCOMMENSURATE SYSTEM OF FRACTIONAL DIFFERENTIAL EQUATIONS

Iqbal M Batiha, Nashat Alamarat, **Shameseddin Alshorm**, OY Ababneh, Shaher Momani

(2023). 2023

Solvability and Dynamics of Superlinear Reaction Diffusion Problem with Integral Condition

Iqbal M Batiha, Zainouba Chebana, Taki-Eddine Oussaeif, Adel Ouannas, **Shameseddin Alshorm**, Amjed Zraiqat

IAENG International Journal of Applied Mathematics 53 (2023) pp. 113–121. 2023

Some results on zeros of the monic polynomial of the Frobenius companion matrix

Iqbal M Batiha, Iqbal Jebril, **Shameseddin Alshorm**, Abeer A Al-Nana

Numerical Solutions of Stochastic Differential Equation Using Modified Three-Point Fractional Formula

Iqbal M Batiha, Shaher Momani, **Shameseddin Alshorm**, Adel Ouannas

2023 International Conference on Fractional Differentiation and Its Applications (ICFDA), 2023

The n-Point Composite Fractional Formula for Approximating Riemann–Liouville Integrator

Iqbal M Batiha, **Shameseddin Alshorm**, Abdallah Al-Husban, Rania Saadeh, Gharib Gharib, Shaher Momani

Symmetry 15.4 (2023) p. 938. MDPI, 2023

Modified 5-point fractional formula with Richardson extrapolation

Iqbal M Batiha, **Shameseddin Alshorm**, Iqbal Jebri, Amjed Zraiqat, Zaid Momani, Shaher Momani

AIMS Math 8 (2023) pp. 9520–9534. 2023

Numerical solution for incommensurate system of fractional order differential equations

Iqbal M Batiha, **Shameseddin Alshorm**, Amjed Zraiqat, Mohammad Alia, Iqbal Jebri

2023 International Conference on Information Technology (ICIT), 2023

Handling a Commensurate, Incommensurate, and Singular Fractional-Order Linear Time-Invariant System

Iqbal M Batiha, Omar Talafha, Osama Y Ababneh, **Shameseddin Alshorm**, Shaher Momani

Axioms 12.8 (2023) p. 771. MDPI, 2023

Common Fixed Point Theorem in Non-Archimedean Menger PM-Spaces Using CLR Property with Application to Functional Equations

Iqbal M. Batiha, Leila Ben Aoua, Taki-Eddine Oussaeif, Adel Ouannas, **Shameseddin Alshorm**, Iqbal H. Jebri, Shaher Momani

IAENG International Journal of Applied Mathematics 53 (2023) pp. 360–368. 2023

Numerical Solution for Fractional-Order Mathematical Model of Immune-Chemotherapeutic Treatment for Breast Cancer Using Modified Fractional Formula

Mamon Abu Hammad, Iqbal H Jebri, **Shameseddin Alshorm**, Iqbal M Batiha, Nancy Abu Hammad

International Journal of Analysis and Applications 21 (2023) pp. 89–89. 2023

A Numerical Scheme for Dealing with Fractional Initial Value Problem

Batiha Iqbal, Bataih Anwar, Al-Nana Abeer, **Shameseddin, Alshorm**, Jebri Iqbal, Zraiqat Amjed

International Journal of Innovative Computing, Information and Control 19.3 (2023) pp. 763–774. Kyushu Tokai University, 2023

Decomposition of Complete Multigraph into Wheel Graphs for Cyclic Triple System

KHALED AHMAD MATARNEH, MOWAFAQ OMAR AL-QADRI, ABDALLAH AL-HUSBAN, RAJA'I ALDIABAT, **Shameseddin Alshorm**

WSEAS Transactions on Mathematics 22 (2023) pp. 950–960. 2023

Handling systems of incommensurate fractional order equations using improved fractional Euler method

Shameseddin Alshorm, Iqbal M Batiha, Iqbal Jebri, Amer Dababneh

2023 International Conference on Information Technology (ICIT), 2023

A brief review about fractional calculus

I Batiha, M **Shameseddin Alshorm**, I Jebri, Mamon Abu Hammad

Int. J. Open Probl. Compt. Math 15.4 (2022). 2022

A numerical confirmation of a fractional-order COVID-19 model's efficiency

Iqbal M Batiha, Ahmad Obeidat, **Shameseddin Alshorm**, Ahmed Alotaibi, Hajid Alsabaie, Shaher Momani, Meaad Albdareen, Ferjeni

Zouidi, Sayed M Eldin, Hadi Jahanshahi

Symmetry 14.12 (2022) p. 2583. MDPI, 2022

Modified three-point fractional formulas with Richardson extrapolation

Iqbal M Batiha, **Shameseddin Alshorm**, Adel Ouannas, Shaher Momani, Osama Y Ababneh, Meaad Albdareen

Mathematics 10.19 (2022) p. 3489. MDPI, 2022

CONFERENCES

2021	6th , International Conference on Combinatorics, Cryptography, Computer Science and Computation	Iran
2021	9th , ARID International Scientific Forum ARID SCIENTIFIC LTD	Turkey
2022	7 th , International Arab Conference on Mathematics and Computations	Jordan
2022	5th , INTERNATIONAL CONFERENCE ON MATHEMATICAL AND RELATED SCIENCES	ANTALYA, TURKEY
2023	6th , Global Webinar on Applied Science, Engineering and Technology	Online
2023	ICFDA 2023 , THE INTERNATIONAL CONFERENCE ON FRACTIONAL DIFFERENTIATION AND ITS APPLICATIONS	UAE
2023	The 1st , Scientific Conference for Graduate Students	Jordan
2023	8 th , International Arab Conference on Mathematics and Computations	Jordan
2023	7th , Global Webinar on Applied Science, Engineering and Technology	Online
2023	12 th , International Scientific Forum	Jakarta-Indonesia
2023	11 th , International Conference on Information Technology	Jordan
2024	TENORS , Kick-off meeting & Recruitment event	France

Reviewer at the following journal _____

Since 2024 (MDPI), mathematics, Fractal and Fractional	Basel, Switzerland
Since 2023 (GLM), General Letters in Mathematics	Jordan
Since 2022 (IJOPCM), International Journal of Open Problems in Computer Science and Mathematics	Jordan
Since 2022 (ICSRS), International Center for Scientific Research and Studies	Jordan
Since 2022 (IJOPCA), International Journal of Open Problems in Complex Analysis	Jordan
Since 2022 (NFAA), Nonlinear Functional Analysis and Applications	KOREA
Since 2022 (JAMI), Journal of Applied Mathematics and Informatics	KOREA

Reviewer at the following conferences _____

2023	The 1st , Scientific Conference for Graduate Students	Jordan
2023	8 th , International Arab Conference on Mathematics and Computations	Jordan
2023	11 th , International Conference on Information Technology	Jordan
2022	7 th , International Arab Conference on Mathematics and Computations	Jordan

Organizing Conference Committee _____

2023	The 1st , Scientific Conference for Graduate Students at AL-ZAYTOONAH UNIVERSITY OF JORDAN	Jordan
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Editor at the following journal _____

Since 2023	(GLM), General Letters in Mathematics (GLM) Email: editorglm@refaad.com DOI: 10.31559/GLM ISSN 2519-9277 (Online) ISSN 2519-9269 (Print) Freq. : Quarterly	Jordan
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Instructor of the following software _____

MATLAB	Giving a Matlab course for 60 hours in the Mathematics Department, Al Zaytoonah University of Jordan.	2022
Mathematica	Giving a Mathematica course for 60 hours in the Mathematics Department, Al Zaytoonah University of Jordan.	2023

CONFERENCES PAPER _____

2021	ON A CLASS OF FINITE GROUPS WITH RESTRICTION ON COMMUTATOR , 6th, International Conference on Combinatorics, Cryptography, Computer Science and Computation,	Iran
2021	Finite Groups In Which Every Commutator Element Is Central , 9th, ARID International Scientific Forum ARID SCIENTIFIC LTD	Turkey
2022	Groups in which the commutator subgroup is cyclic , 7th, International Arab Conference on Mathematics and Computations	Jordan
2022	A study of numerical solutions for a family of multi-term fractional-order integrodifferential equations , 5th, INTERNATIONAL CONFERENCE ON MATHEMATICAL AND RELATED SCIENCES	ANTALYA, TURKEY
2023	Analytic functions defined by Ruscheweyh derivative , 6th, Global Webinar on Applied Science, Engineering and Technology	Online
2023	Numerical Solutions of Stochastic Differential Equation Using Modified Three-Point Fractional Formula , ICFDA 2023, THE INTERNATIONAL CONFERENCE ON FRACTIONAL DIFFERENTIATION AND ITS APPLICATIONS	United Arab Emirates
2023	A Historical Preliminary Definitions Review of Fractional Calculus , The 1st, Scientific Conference for Graduate Students	Jordan
2023	1-Numerical Solution for Fractional-order Glioblastoma Multiforme Model. 2-Solving Fractional Order Monkeypox Model by New Numerical Methods. 3-Stochastic Population Growth Model Using Three-Point Fractional Formula. , 8 the, International Arab Conference on Mathematics and Computations	Jordan
2023	Using the Lyapunov Method, Fractional Discrete Chaotic Systems can be Synchronized , 7th, Global Webinar on Applied Science, Engineering and Technology	Online
2023	1-Handling Systems of Incommensurate Fractional Order Equations Using Improved Fractional Euler Method, 2-Numerical Solution for Incommensurate System of Fractional Order Differential Equations Using MFEM , 11 the, International Conference on Information Technology	Jordan

Review Activities

Nonlinear Functional Analysis and Applications (NFAA)

KOREA

(51767) 7 Kyungnamdaehak-ro, Masanhappo-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea

2022-2023

- Solvability For a Class of FDEs with Some (e_1, e_2, θ) -nonlocal anti periodic conditions and another Class of KdVBE Type.

Journal of Applied Mathematics and Informatics (JAMI)

KOREA

60332, 70 Hannam-Ro, Daedeok-Gu, Daejeon 34430, KOREA

2022-2023

- A Study on Invariant, Existence and Uniqueness of the Global Solution for Tridiagonal Reaction-diffusion Systems.
- Pollution Detection for the Singular Linear Parabolic Equation.

The 11th International Conference on Information Technology (ICIT 2023)

Jordan

Al Zaytoonah University of Jordan,

2023

- Review for paper #1570908343 "Properties of Conformable Fractional Half-Normal Distribution"
- Review for paper #1570918435 "Exact Solution of Carleman Type Equation Using Tensor Product Technique"
- Review for paper #1570920054 "On Alpha-Homogeneous Fractional Differential Equations"
- Review for paper 1570913505 "Application to Conformable α -Log-Normal Distribution"

Annals of Mathematics and Physics

USA

AMP (ISSN: 2689-7636)

2023

- Manuscript Title: NEW PRIME NUMBER THEORY, Manuscript No: AMP-23-RA-236
- Manuscript Title: The conclusion of the infinite hotel problem, Manuscript No: AMP-23-LE-239
- Manuscript Title: The closed field of imaginary number i , Manuscript No: AMP-23-LE-238
- Manuscript Title: Analyzing Riemann's hypothesis, Manuscript No: AMP-23-RA-243-FA
- Manuscript Title: New definition of singular integral operator, Manuscript No: AMP-23-RA-246

General Letters in Mathematics (GLM)

Jordan

OI: 10.31559/GLM ISSN 2519-9277 (Online) ISSN 2519-9269 (Print) Freq. : Quarterly

2022-2023

- Optimal Follow-Up Designs for Fractional Partial Differential Equations with Application to a Convection-Advection Model.

MDPI

Switzerland

Mathematics, Axioms

2023

- Manuscript ID: mathematics-2484284 "Analysis of Caputo Fractional Order Co-infection COVID-19 and Influenza SEIR Epidemiological by Laplace Adomain Decomposition Method"
- Manuscript ID: fractalfract-2973139 "Novel Estimations of Hadamard-Type Integral Inequalities for Raina's Fractional Operators"
- Manuscript ID: mathematics-3040783 "Robust Invariance Conditions of Uncertain Linear Discrete Time Systems Based on Semidefinite Programming Duality"

Languages

English Professional proficiency

Arabic Native speaker

References

Loai Alzoubi Professor, Department of Mathematics Faculty of Science, Al al-Bayt University, loai67@aabu.edu.jo

Khaled Al-sharo Professor, Department of Mathematics Faculty of Science, Al al-Bayt University, sharo_kh@yahoo.com

References available upon request.