



Dr. Izzat Qaralleh

Associate Professor in Mathematics

"Mathematics is the language of nature."

Personal Details

DOB 4th of Feb, 1985
Permanent Address Jordan, AL-karak
Languages Arabic, English
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Education

2012–2014 **Ph.D in Mathematics**, *International Islamic University Malaysia, Research mod. Abstract Algebra*
2007–2010 **Master of Mathematics**, *Mutah University, Jordan, Excellent. Approximation Theory*
2003–2007 **Bachelor of Mathematics**, *Mutah University, Jordan, Good.*

Professional occupation:

2021-until now **Head of Department**, *Department of mathematics*, Tafila Technical University, Jordan.
2021-until now **Associate professor**, *Department of mathematics*, Tafila Technical University, Jordan.

- 2015-2021 **Assistant professor**, *Department of mathematics* , Tafila Technical University, Jordan.
- 2014-2015 **Assistant professor**, *Department of mathematics*, University of Tabuk, Saudi Arabia .
- 2012-2014 **Teaching assistant**, *Department of computational and theoretical sciences* , International Islamic University Malaysia, Malaysia.
- 2010-2012 **Lecturer**, *Faculty of Preparatory Year* , King Saud University, Saudi Arabia.
- 2007-2010 **Teacher**, *Ministry of Education* , Jordan.

Research field

- Algebra **evolution algebra**, *genetic algebra* , Associative algebra .
- Analysis **Discrete Dynamical Systems** , *Approximation theory*.

Teaching activity

- Fall 2022 **Abstract algebra (2)**, *Spacial topics in math*.
- Summer 2021 **Abstract algebra (1)**, *Euclidean and non Euclidean geometry*.
- Spring 2021 **General math**, *linear algebra*.
- Fall 2021 **Abstract algebra (1)**, *Euclidean and non Euclidean geometry*.
- Summer 2020 **Abstract algebra (2)**, *Euclidean and non Euclidean geometry*.
- spring 2020 **differential equations**, *Euclidean and non Euclidean geometry*.
- Fall 2020 **Abstract algebra (1)**, *Euclidean and non Euclidean geometry*.
- Summer 2019 **Abstract algebra (2)**, *differential equation*, Research.
- Fall 2019 **Abstract algebra (1)**, *Mathematics for chemistry* .
- Summer 2018 **Abstract algebra (2)**, *Mathematics for chemistry* .
- Spring 2018 **Abstract algebra (1)**, *Mathematics for chemistry* , differential equations.
- Fall 2018 **Abstract algebra (1)**, *Calculus (1)*.
- Summer 2017 **Abstract algebra (2)**, *Mathematics for chemistry* .
- Spring 2017 **Abstract algebra (1)**, *Mathematics for chemistry* , Calculus (2).
- Fall 2017 **Abstract algebra (1)**, *Calculus (3)*, Mathematics for chemistry .
- Summer 2016 **Differential equations**, *Calculus (2)* .
- Spring 2016 **Topology**, *Calculus (2)* , differential equations.
- Fall 2016 **Differential equations**, *Calculus (2)* , general mathematics.

Additional Skills

Mechanical Engineering Softwares:



Additional Softwares

Microsoft Office

L^AT_EX

Microsoft Access

Personal Skills

- Quick Learner.
- Able to handle multiple situations at the same time.
- Creating Ideas: Creativity.
- Can manage time effectively
- Good Computer handling skills.

Area of Interest

- Abstract algebra
- Dynamical systems and related algebras
- Approximation theory

Languages

Arabic **Mothertongue**

English **Excellent**

Publications

1. **Farrukh Mukhamedov, AND Izzat Qaralleh.** "Entropy treatment of evolution algebras" Entropy (2022) ..
2. **Farrukh Mukhamedov, Izzat Qaralleh.** "On S-Evolution Algebras and Their Enveloping Algebras." Mathematics (2021).
3. **Ahmad Alarfeen, Izzat Qaralleh, Azhana Ahmad.** "Properties of nilpotent evolution algebras with no maximal nilindex." European Journal of Pure and Applied Mathematics (2021).
4. **Izzat Qaralleh.** "A Description of Derivations of a Class of Nilpotent Evolution Algebras." Malaysian Journal of Mathematical Sciences (2020).
5. **Izzat Qaralleh, Ahmad Termimi Ab Ghani, Hamza Abd El-Qader.** "Classification and Dynamics of a Class of $\xi^{(a,s)}$ -QSOs." Journal of Mathematical and Fundamental Sciences (2020).
6. **Hamza Abd El-Qader, Ahmad Termimi Ab Ghani, Izzat Qaralleh.** "The Derivations of Evolution Algebras under a Given Conditions." Journal of Physics: Conference Series (2020).

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7. Hamza Abd El-Qader, Ahmad Termimi Ab Ghani, **Izzat Qaralleh**. "On evolution algebras and their derivations." *Journal of Mathematics and Computer Sciences* (2020).
8. Farrukh Mukhamedov, Otabek Khakimov, **Izzat Qaralleh**. "Classification of nilpotent evolution algebras and extensions of their derivations." *Communications in Algebra* (2020).
9. Hamza Abd El-Qader, Ahmad Termimi Ab Ghani, **Izzat Qaralleh**. "On Genetic Algebra and its Transformation to some Evolution Algebras in Dimension Four." *Journal of Physics: Conference Series* (2020).
10. **Izzat Qaralleh**, and Farrukh Mukhamedov. "Volterra evolution algebras and their graphs." *Linear and Multilinear Algebra* (2019): 1-17..
11. Mukhamedov, F., Khakimov, O., Omirov, B., **Izzat Qaralleh**. "Derivations and automorphisms of nilpotent evolution algebras with maximal nilindex." *Journal of Algebra and Its Applications* 18, no. 12 (2019): 1950233.
12. Ganikhodzhaev, R., Mukhamedov, F., Pirnapasov, A., **Izzat Qaralleh**. Genetic Volterra algebras and their derivations. *Communications in Algebra*, 46(3), 1353-1366.(2018) .
13. **Izzat Qaralleh**, Classification of a new subclass of $\xi^{(as)}$ -QSO and its dynamics, *Journal of Mathematics and computer science*, Volume 17 ,Issue 4, Pages 535-544, Publisher International Scientific Research Publications.
14. **Izzat Qaralleh**. "On Genetic and Evolution Algebras." *Journal of Physics: Conference Series*. Vol. 819. No. 1. IOP Publishing, 2017. .
15. Alsarayreh, A. **Izzat Qaralleh**, Ahmad, M. Z., Al-Shutnawi, B., Al-Kaseasbeh, S. Global and local behavior of a class of $\xi^{(s)}$ -QSO nonlinear since and its applications Volume 10, Issue 9, pp 4834–4845(2017) .
16. A. Alsarayreh, **Izzat Qaralleh**, M. Z. Ahmad $\xi^{(as)}$ -QUADRATIC STOCHASTIC OPERATORS IN TWO-DIMENSIONAL SIMPLEX AND THEIR BEHAVIOR, *JP Journal of Algebra, Number Theory and Applications* Volume 39, Issue 5, Pages 737-770 ,Publisher pushpa publishing house (2017).
17. Alsarayreh, Abdelwahab, **Izzat Qaralleh**, and Muhammad Zaini Ahmad. "DERIVATION OF THREE-DIMENSIONAL EVOLUTION ALGEBRA." *JP JOURNAL OF ALGEBRA NUMBER THEORY AND APPLICATIONS* 39.4 : 425-444 (2017) .
18. Alsarayreh, A. **Izzat Qaralleh** I., Ahmad, M. Z. Asymptotic Behavior of Nonlinear Operator, *Applied Mathematics and Computational Intelligence* Volume 6, Issue 1, Pages 7-18 ,Publisher University Malaysia Perlis (2017).
19. Ahmad, M. Z., Alsarayreh, D., Alsarayreh, A., **Izzat Qaralleh**. (2017). Differential Transformation Method (DTM) for Solving SIS and SI Epidemic Models. *Sains Malaysiana*, 46(10), 2007.

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20. **Izzat Qaralleh**, Muhammad Zaini Ahmad, and Abdelwahab Alsarayreh. "Associative and derivation of genetic algebra generated from $\xi^{(s)}$ -QSO." AIP Conference Proceedings. Vol. 1775. No. 1. AIP Publishing, 2016.
21. Mukhamedov, F., **Izzat Qaralleh**, Tafila, J., Pirnapasov, A. On Genetic and Evolution Algebras in Dimension Three. International Journal of Algebra, 10(7), 327-334. (2016) .
22. **Izzat Qaralleh**, On Dynamics of a class taken from () Quadratic Stochastic Operators ,ournal of Basic And Applied Research(2016).
23. Khudoyberdiyev, A. Kh, Bakhrom A. Omirov, and **Izzat Qaralleh**. "Few remarks on evolution algebras." Journal of Algebra and Its Applications 14.04 (2015): 1550053.
24. **Izzat Qaralleh** On Dynamics of Quadratic Stochastic Operators journal of Basic And Applied Research(2016).
25. Mukhamedov, Farrukh, **Izzat Qaralleh**, and W. N. F. A. W. Rozali. "On $\xi^{(a)}$ -quadratic stochastic operators on 2D simplex." Sains Malaysiana 43.8 : 1275-1281,(2014).
26. Mukhamedov, Farrukh, and **Izzat Qaralleh**. "On derivations of genetic algebras." Journal of Physics: Conference Series. Vol. 553. No. 1. IOP Publishing, 2014.
27. Mukhamedov, Farrukh, Mansoor Saburov, and **Izzat Qaralleh**. "On-quadratic stochastic operators on two-dimensional simplex and their behavior." Abstract and Applied Analysis. Vol. 2013. Hindawi, (2013).
28. Mukhamedov, Farrukh, Mansoor Saburov, and **Izzat Qaralleh**. "Classification of $\xi^{(2)}$ -Quadratic Stochastic Operators on 2D simplex." Journal of Physics: Conference Series. Vol. 435. No. 1. IOP Publishing, (2013) .
29. Mukhamedov, Farrukh, Bakhrom Omirov, and **Izzat Qaralleh**. "Description of Three Dimensional Solvable Evaluation Algebras." International Conference on Mathematical Sciences and Statistics 2013. Springer, Singapore, 2014.
30. Rasul Ganikhodzaev, Farrukh Mukhamedov, Mansoor Saburov, **Izzat Qaralleh** ,Dynamics of composition of two quadratic stochastic Volterra operators (2013).
31. Rateb Btoush, **Izzat Qaralleh**, On approximation of continuous function by Hermite interpolation ,MuãĀĴtah Lil-Buhuth wad-Dirasat,26,1 Mutah Uiversity (2011).
32. El-Qader, Hamza Abd, Ahmad Termimi Ab Ghani, **Izzat Qaralleh**, and A. Alsarayreh. "Dynamics of a nonlinear operators generated from $\xi^{(as)}$ -Quadratic Stochastic Operators, International Journal of Engineering Research and Technology. ISSN 0974-3154, Volume 12, Number 2 (2019), pp. 162 - 171" .

2. Ahmad Alarfeen, **Izzat Qaralleh**, Azhana Ahmad. "ON PROPERTIES OF SOME NILPOTENT EVOLUTION ALGEBRAS AND ITS ENVELOPING ALGEBRA ." Journal of algebra and its applications (2022).

Submitted Papers

1. FARRUKH MUKHAMEDOV, OTABEK KHAKIMOV, AND **Izzat Qaralleh**. "A few remarks on topological aspects of nilpotent evolution algebras" Linear and multilinear algebra (2022) ..
2. **Izzat Qaralleh**. "Tensor product of finite nilpotent evolution algebras ." Algebras and Representation Theory (2022).

Invited Conferences and workshops

1. (2022)Non-associative Algebras, Dynamical Systems and Their Applications in Biology Shah Alam, Kuala Lumpur, Malaysia 28th July 2022.
2. (2017)The Second International Conference on Groups, Group Rings and Related Topics (GRRRT 2017) Oceanic Khorfakkan Resort Spa, Khorfakkan, UAE 19th - 22th Nov 2017.
3. (2016) 37th International Conference on Quantum Probability and Related Topics (QP37) 22-26 Aug 2016. Kuantan, Malaysia CNUM: C16-08-22.8.
4. (2012)Classifications of $\xi^{(s)}$ (s) -QSO on 2D simplex. In: International Conference on Advancedment in Science and Technology (IIUM-iCAST 2012), Contemporary Mathematics,Mathematical Physics and their Applications, 70 10 November, Kuantan, Pahang, Malaysia. .
5. (2012) On dynamics of a class of $\xi^{(s)}$ quadratic stochastic operators on 2D simplex. In: International Science Postgraduate Conference 2012 (ISPC 2012), 27-30 November , Skudai, Johor. .
6. (2012) A behavior of a class of $\xi^{(s)}$ -QSO in dimension 2. In: Malaysian Science and technology Congress (MSTC 2012), 19 - 21 Nov , SIME DARBY Convention Center, Bukit Kiara, Kuala Lumpur. .
7. (2012) A new class of quadratic stochastic operators, Tashkent.
8. (2013) Description of three dimensional Solvable Evaluation Algebras. International Conference on Mathematical Sciences and Statistics (ICMSS2013).5-7 February .Sunway Putra Hotel, Kuala Lumpur, MALAYSIA.
9. (2013) On Derivations Of Genetic Algebras. IIUM Congress on Science 2013 (Pahang, Malaysia). 3-5 December Bukit Gambang Resort City (BGRC). .

VISITING SCHOLAR

2019, Visiting scholar at International Islamic University Malaysia

CO-SUPERVISOR FOR PHD STUDENTS

- 1 Ahmad Alarfeen , Universiti Sains Malaysia, Malaysia (in progress)
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- 2 Hamza Abd El-Qader , Universiti Malaysia Terengganu, Malaysia (2020)
- 3 Abdelwahab Alsarayreh, University Malaysia, Perlis, Malaysia (2018)

THESIS EXAMINER

1. External examiner of master thesis by Sondos Muhammed Syam, United Arab Emirates University, (2021). .
2. (2013) External examiner of master thesis by Rawan abd alrhman alhroot, Mutah University, (2022). .
2. (2013) External examiner of master thesis by Wael Muhammed Aborqiq, Mutah University, (2022). .
3. External examiner of master thesis by

CITATIONS AND H-INDEX

Google Scholar: <https://scholar.google.com/citations?user=JjR8SpOAAAAJ&hl=en>
researchgate: <https://www.researchgate.net/profile/Izzat-Qaralleh>

REFERENCES

These persons are familiar with my professional qualifications and my character:

Professor Farrukh Mukhamedov

Ph.D. Thesis Supervisor

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Declaration

I hereby declare that the above mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above mentioned particular.

Date:

Place:

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