Hidayat Ullah Khan

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PERSONAL INFORMATION

Citizenship : Pakistani

Date of birth : June 24, 1974

Place of birth : Swat, Khyber Pakhtunkhwa, Pakistan

Home Addres : Village Gogdara Post Office Tariq Abad, Thesil Babozai, District Swat, Khyber Pakhtunkhwa, Pakistan

Office Address : Department of Mathematics, University of Malakand at Chakdara, District Dir (L) Khyber Pakhtunkhwa, Pakistan.

EDUCATION BACKGROUND

2015 – **PhD** (Mathematics, Interval-valued Fuzzy Ordered Semigroup):
Universti Teknologi Malaysia.

2012 – **M. Phil** (Mathematics, Mathematical Finance):
University of Malakand, Khyber Pakhtunkhwa, Pakistan

2000 – **M.Sc.** (Mathematics):
University of Peshawar Khyber Pakhtunkhwa, Pakistan

RESEARCH INTEREST

Fuzzy algebra, Fuzzy Semigroups, Fuzzy Ordered semigroups, Fuzzy Semihypergroups, Fuzzy Ordered semihypergroups, Soft sets.

PRESENT JOB

2018 – To date – **Assistant Professor**
Department of Mathematics, University of Malakand, Pakistan
2005 – 2018 – **Lecturer**
Department of Mathematics, University of Malakand, Pakistan
2004 – 2005 – **Research Associate**:
Department of Computer and Emerging Sciences, Balochistan University of Information Technology and Management Sciences Quetta, Pakistan
2001 – 2004 – **Lecturer**
Department of Mathematics, Gov. Jehanzeb Post Graduate College, Swat, Pakistan
2000 – 2001 – **Lecturer**
Department of Mathematics, Gov. Degree College Agra, Malakand Agency, Pakistan

ADMINISTRATIVE RESPONSIBILITES

2017 – To date – **Deputy Director Students' Societies**
My responsibilities as Deputy Director Students' Societies are to organize co-curicular activities/Seminars to devolope the leadership qualities of the students.

2016 – 2018 – **Semester Coordinator**
To make schedule for the undergraduate classes and assign courses to the teachers.
To overall check the examination/evaluation process of the students.

2008 – 2011 – **Deputy Director Societies**

2008 – 2011 – **Chief Editor**, University *Newsletter* and University literary magazine *Masaga*
I initiated the *Newsletter* of the university and launched the university magazine *Masaga*

HONOURS and MEMBERSHIPS

2018 – 2020 – **Elected member of the syndicate, University of Malakand**

2012 – 13 – **Elected President**, International Students Society Pakistan
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ASSOCIATION with JOURNALS

1. International Journal of Algebra and Statistics (Reviewer/Referee)
2. Annals of Fuzzy Mathematics and informatics (Reviewer/Referee)
3. Afrika Matematika (Reviewer/Referee)
4. Journal of Intelligent Systems (Reviewer/Referee)
5. Matriks Sains Matematik (Managing Editor)

TEACHING EXPERIENCE

Fuzzy Semigroup Theory, Fuzzy Group Theory, Calculus, Linear Algebra, Group Theory, Real Analysis, Set Point Topology, Measure Theory, Differential Equations.

STUDENTS UNDERSUPERVISION

1. **Ibrahim Gambo:** He is a PhD scholar in Universiti Teknologi Malaysia. He is doing his PhD under my supervision (as co-supervisor) on Generalized Gama Ordered Semigroups.
2. **Azizul Hakim:** He is a PhD scholar in the department of Mathematics, University of Malakand. He is doing his PhD under my supervision in Intuitionistic fuzzy soft sets.

PUBLICATIONS

I. ISI Indexed Papers

1. B. Davvaz, A. Khan, N. H. Sarmin and **H. Khan**. More general forms of interval valued fuzzy filters of ordered semigroups. International Journal of Fuzzy Systems. **15 (2): 110-**126, 2013 (Science Citation Index Expanded).
2. A. Khan, B. Davvaz, N. H. Sarmin and H. Khan. Redefined intuitionistic fuzzy bi-ideals of ordered semigroups. Journal of Inequalities and Applications. doi:10.1186/1029-242X-2013-397. (Science Citation Index Expanded)
3. F. M. Khan, N. H. Sarmin and H. Khan. A novel approach toward fuzzy generalized bi-ideals in ordered semigroups. Scientific World Journal. Volume 2014, Article ID 275947, 9 pages http://dx.doi.org/10.1155/2014/275947. (IF=1.73 JCR 2014)
4. H. Khan, N. H. Sarmin, A. Khan and F. M. Khan. A new pattern of interval-valued fuzzy interior ideals in semigroups. Science international Lahore. Vol. 26. Iss. 2 Page: 527-535 (2014). (Zoological Record)
5. H. Khan, N. H. Sarmin, A. Khan and F. M. Khan. A new interpretation of interval-valued fuzzy interior ideals of ordered semigroups. Science international Lahore. Vol. 27. Iss. 1 Page: 29-37 (2015). (Zoological Record)
6. F. M. Khan, N. H. Sarmin, Asghar Khan and **H. Khan**. Some Innovative Types of Fuzzy Bi-Ideals in Ordered Semigroups. Journal of Advanced Mathematics and Applications. Vol. 4 (1): 24–36 (2015). (Emerging Sources Citation Index)
7. **H. Khan**, N. H. Sarmin. A. Khan and F. M. Khan. Bi-ideals of ordered semigroup based on the interval-valued fuzzy points. Jurnal Teknologi. Vol. 78. Issue 2, page 179-191, (2016). (Emerging Sources Citation Index)
8. **H. Khan**, N. H. Sarmin. A. Khan and F. M. Khan. New generalization of interval-valued fuzzy filters of ordered semigroups. Sindh University Research Journal. Vol. 48 (2) 383-388 (2016) (BIOSIS Previews).
9. R. Khan, A. Khan and **H. Khan**. Uni-soft filters of ordered semigroups. Sindh University Research Journal. Vol. 48 (4): 859-864 (2016) (BIOSIS Previews).
10. **H. Khan**, N. H. Sarmin, A. Khan and F. M. Khan. Classification of Ordered Semigroups in terms of Generalised Interval-valued Fuzzy Interior Ideals. Journal of Intelligent

Systems. Vol. 25 (2) (Apr 2016). Published Online: 2016-02-06. DOI: https://doi.org/10.1515/jisys-2015-0035. (Emerging Sources Citation Index).

11. F. M. Khan, **H. Khan**, S. Mukhtar, A. Khan and N. H. Sarmin. Some innovative types of fuzzy ideals in AG-groupoids. Journal of Intelligent Systems. https://doi.org/10.1515/jisys-2017-0258. (Emerging Sources Citation Index).
12. T. Mahmood, M. Ibrar, A. Khan, H. Khan and F. Abbas. Classifications of Ordered Semigroups in Terms of Bipolar Fuzzy Bi-Ideals. Journal of Applied Environmental and Biological Sciences. Vol. 7 (10): 134-142. (2017). (Zoological Record).
13. A. Khan, M. Shah, H. U. Khan, And G. Zaman. Study of Jordan Quasigroups and their Construction. Journal of Taibah University for Science. (Accepted, November 29, 2017). (Emerging Sources Citation Index)
14. I. Gambo, N. H. Sarmin, **H. Khan** and F. M. Khan. The characterization of regular ordered $\Gamma-$semigroups in terms $(\in, \in \vee q_k)$-fuzzy $\Gamma-$ideals. Malaysian Journal of Fundamental and Applied Sciences Vol. 13, No. 4 (2017) 576-580. (Emerging Sources Citation Index)
15. I. Gambo, N. H. Sarmin, **H. Khan** and F. M. Khan. New fuzzy generalized bi $\Gamma-$ideals of the type $(\in, \in \vee q_k)$ in ordered $\Gamma-$semigroups. Malaysian Journal of Fundamental and Applied Sciences Vol. 13, No. 4 (2017) 666-670. (Emerging Sources Citation Index).
16. I. Gambo, N. H. Sarmin, **H. Khan** and F. M. Khan. Characterization of $(\in, \in \vee q_k)$-fuzzy quasi $\Gamma-$ideals in ordered $\Gamma-$semigroups. Journal of Mathematical and Fundamental Sciences (Accepted). (Emerging Sources Citation Index).
17. F. M. Khan, N. Yufeng, H. Khan, and B. M. Khan. Ordered Semigroups Based on $(\in, \in \vee q_k^{\delta})$-Fuzzy Ideals. Advances in Fuzzy Systems. Volume 2018, Article ID 5304514, 11 pages http://dx.doi.org/----------.

II. **Scopus indexed Papres**

18. A. Khan, Y. B. Jun, N. H. Sarmin and **H. Khan**. Interval-valued fuzzy generalized bi-ideals of ordered semigroups redefine. World Applied Sciences Journal. Vol. 27 Issue 12. Page: 1737-1751 (2013).
19. **H. Khan**, N. H. Sarmin, A. Khan and F. M. Khan. Some charecterisations of semigroups in terms of generalised intuitionistic fuzzy interior ideals. Journal of Prime Research in Mathematics. Vol. 10. Pages: 19-36 (2015).
20. **H. Khan**, A. Khan, and N. H. Sarmin. Cartesian Product of Interval-Valued Fuzzy Ideals In Ordered Semigroup. Journal of Prime Research in Mathematics. Vol. 12(2016), 120-129.

III. Non-indexed Papres

21. **H. Khan**, N. H. Sarmin, A. Khan and F. M. Khan. New types of intuitionistic fuzzy interior ideals of ordered semigroups. Annals of Fuzzy Mathematics and Informatics. Volume 6, No. 3. Pages: 495-519. (2013)
22. N. Muhammad, **H. Khan**, N. H. Sarmin and Aurang Zeb. Expansion of $Cos^n\theta$ and $Sin^n\theta$ in terms of cosines and sines of multiple of θ by using Noor's Triangle. Menemui Matematik Universiti Putra Malaysia. Vol. 35 (1). Pages: 49-55. (2013)
23. **H. Khan**, N. H. Sarmin and A. Khan. A New form of fuzzy generalized bi-ideals in ordered semigroups. The Honam Mathematical Journal. Vol. 36. Iss. 3 Pages: 569-596 (2014).
24. **H. Khan**, A. Khan, F. M. Khan and Yongjin Li. Generalized Bi-ideal of Ordered Semigroup Related to Intuitionistic Fuzzy Point. Matriks Sains Matematik (MSMK). Vol. 1 (1). Pages: 09-15. (2017).
25. F. M. Khan, N. H. Sarmin, A. Khan and **H. Khan**. New Types of Fuzzy Interior Ideals of Ordered Semigroups Based on Fuzzy Points. Matriks Sains Matematik (MSMK). Vol. 1 (1). Pages: 25-33. (2017).
26. **H. Khan**, N. Ha. Sarmin, A. Khan, F. M. Khan and Muhammad Taj. Intuitionistic Fuzzy Interior Ideal of Semigroup Based on Intuitionistic Fuzzy Point. Matriks Sains Matematik (MSMK). Vol. 1 (2). Pages: 22-26 (2017).
27. Amir Khan, Tahir Khan, **H. Khan**, Gul Zaman. Construction of right nuclear square loop. Matriks Sains Matematik (MSMK). Vol. 1 (2). Pages: 01-03 (2017).
28. Amir Khan, Mehtab Khan, **H. Khan**, Gul Zaman. On Left Alternative Loops. Matriks Sains Matematik (MSMK). Vol. 1 (2). Pages: 04-05 (2017).
29. R. Khan, A. Khan, M. U. Khan, and H. Khan. RIGHT PURE UNI-SOFT IDEALS OF ORDERED SEMIGROUPS. Matriks Sains Matematik (MSMK). Vol. 2 (1). Pages: 18-23 (2018).

IV. Confrence Proceedings

30. **H. Khan**, N. H. Sarmin, A. Khan and F. M. Khan. Generalized intuitionistic fuzzy interior ideals of semigroups. International Conference on Soft Computing and Computational Mathematics July, 2013. Kualampur Malaysia. July 4, 2013.

31. **H. Khan**, N. H. Sarmin, A. Khan and F. M. Khan. New Interpretation of Interior Ideals Of Ordered Semigroups. 2nd International Science Postgraduate Conference 2014. March 10-12, 2014. Proceedings: Page: 677-691.
32. I. Gambo, N. H. Sarmin, **H. Khan** and F. M. Khan. $(\in, \in \vee q_k)$-FUZZY GENERALIZED BI Γ–IDEALS IN ORDERED Γ–SEMIGROUP. 6th International Graduate Conference on Engineering, Science & Humanities 2016. Proceedings: Page: 319-322.
33. I. Gambo, N. H. Sarmin, H. Khan and F. M. Khan. New Form of Fuzzy Bi Γ-Ideals In Ordered Γ- Semigroup. The 4th International Conference on Mathematical Sciences (ICMS4).
34. I. Gambo, N. H. Sarmin, H. Khan and F. M. Khan. On The Characterization of Bi Gamma Ideals of the type $(\in, \in \vee q_k)$ in Gamma Ordered Semigroups. 4th Biennial International Group Theory Conference 2017 (4BIGTC2017) Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia. January 23-26, 2017.
35. I. Gambo, N. H. Sarmin, H. Khan and F. M. Khan. The Characterization of Regular Ordered Γ-Semigroups In terms of $(\in, \in \vee q_k)$-Fuzzy Γ-Ideals. 5th International Science Postgraduate Conference 2017 (ISPC 2017). **(ACCEPTED)**
36. **H. Khan**, A. Khan, F. M. Khan and Yongjin Li. A New Type of Interval-valued Fuzzy Filters of Ordered Semigroup. The 2017 International Conference on Applied Mathematics, Modelling and Statistics Application (AMMSA2017).