## DR. ANAM LUQMAN

Father's Name: Muhammad Luqman

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#### **BRIEF BIOGRAPHY**

Dr. Anam Luqman has received her postgraduate degree in Mathematics from University of the Punjab, where she received scholarship for academic excellence. She received MPhil and PhD degrees in Mathematics from Punjab University, Lahore. Dr. Anam's research interests include granular computing, FMEA, graph theory, fuzzy graphs, fuzzy hypergraphs, fuzzy decision support systems/decision-making systems and extensions of soft set theory. She has published 16 research articles in international peer-reviewed ISI Indexed /Impact factor journals. Some of her papers have been published in high impact journals including Soft Computing, Neural Computing and Applications, Symmetry, Mathematics and Journal of Intelligent and Fuzzy Systems. Her current impact factor is 43.638.

**OBJECTIVE:** Enter into professional life with commitment and to become part of dynamic organization where I can fully apply my knowledge and skills towards the organization growth.

#### RESEARCH PROFILE

Number of Published Books by International Publisher				
• Number of International/HEC recognized Journal publications				
• Total Impact Factor	43.638			
• Number of Citations of the Publications				
Number of Foreign Research Collaborators				
Number of National Research Collaborators				
• Reviewer/Referee for International Journals				

## RESEARCH INTERESTS

- Graph Theory
- Applications of Fuzzy Systems and Related Topics in Graphs and Hypergraphs
- Fuzzy Decision Support/ Decision-Making Systems
- Applications and Extensions of Rough and Soft Systems
- Granulation of Network Models
- Failure Modes and Effects Analysis

## ACADEMIC QUALIFICATION

Sr no.	Education	$\mathrm{Pct/cgpa}$	Year/Div	Institute
1	Ph.D. (Mathematics)	completed	2017 - 2020	Department of
		Fil.D. (Mathematics)	3.83 cgpa (course work)	December 2020
2	M.Phil. (Mathematics)	87.50%	$2017/1^{st}$	Department of
				Mathematics, PU, Lahore
3	MSc (Mathematics)	73.58%	$2013/1^{st}$	Department of
				Mathematics, PU, Lahore
4	BSc (Math A, Math B, Physics)	79.5%	$2011/1^{st}$	Govt. Degree College for Women,
				Hasilpur
5	ICS(Math, Physics, Computer)	81.7%	$2009/1^{st}$	Govt. Degree College for Women,
				Hasilpur
6	Matric(Science)	82.12%	$2007/1^{st}$	Govt. Girls High School,
				Qaimpur

**Title of Doctoral Dissertation:** Granulation of Network Models under Fuzzy Hybrid Information.

Title of MPhil Dissertation: Bipolar Neutrosophic Hypergraphs with Applications.

## ACHIEVEMENTS/AWARDS

- Awarded with research incentive of 500 Euros from Springer, Germany, 2020.
- Awardee of research incentive from King Abdul Aziz University, Jeddah, Saudi Arabia, 2020.
- Awardee of HEC Indigenous Scholarship Phase II Batch V, 2018.
- Awardee of DPCC Merit Scholarship in MPhil, 2016-2017.
- Awarded with laptop under Prime Minister Youth Initiative Program in MSc, 2012.
- Awarded with merit scholarship by Department of Mathematics in MSc, 2011.
- Awardee of PEEF Merit Scholarship in BSc, 2009-2011.

## FIELDS OF INTEREST

- Abstract Algebra
- Linear Algebra
- Real Analysis
- Topology and Functional Analysis
- Graph Theory
- Complex Analysis
- Vector Analysis

## PERSONAL SKILLS

- Installation and operation of all general softwares and drivers
- MS office
- MATLAB, Mathematica
- Latex, Latex Draw
- Mayura Draw

## LIST OF PUBLICATIONS

#### INTERNATIONAL BOOKS

### **Published**

Muhammad Akram, Anam Luqman, Fuzzy Hypergraphs and Related Extensions, Springer, 2020.

# ARTICLES IN INTERNATIONAL JOURNALS/HEC RECOGNIZED JOURNALS

### Year 2022

(17) Muhammad Akram, Anam Luqman and Jose Carlus R. Alcantud, An integrated ELECTRE-I approach for risk evaluation with hesitant Pythagorean fuzzy information, Expert Systems with Applications. **200** (2022), 116945.

(Impact Factor: 8.665)

## Year 2021

- (16) Muhammad Akram, Anam Luqman and Cengiz Kahraman, Hesitant Pythagorean fuzzy ELECTRE-II method for multi-criteria decision making problems, Applied Soft Computing. (2021), 107479. (Impact Factor: 6.725)
- (15) Anam Luqman, Muhammad Akram and Jose Carlos R. Alcantud, Digraph and matrix approach for risk evaluations under Pythagorean fuzzy information, Expert Systems with Applications. 170 (2021) 114518.

  (Impact Factor: 6.954)

## Year 2020

(14) Muhammad Akram, Anam Luqman and Jose Carlos R. Alcantud, Risk evaluation in failure modes and effects analysis: Hybrid TOPSIS and ELECTRE I solutions with Pythagorean fuzzy information, Neural Computing and Applications. (2020) DOI:10.1007/s00521-020-05350-3.

(Impact Factor: 5.606)

- (13) Muhammad Akram and Anam Luqman, Granulation of ecological networks under fuzzy soft environment, Soft Computing. 24 (2020) 11867-11892.

  (Impact Factor: 3.643)
- (12) Muhammad Akram, Anam Luqman and Ahmad N. Al-Kenani, Certain models of granular computing based on rough fuzzy approximations, Journal of Intelligent and Fuzzy Systems. DOI: 10.3233/JIFS-191165 (2020) 1-20.

  (Impact Factor: 1.851)

#### Year 2019

- (11) Anam Luqman, Muhammad Akram, Ahmad N. Al-Kenani and Jose Carlos R. Alcantud, A study on hypergraph representations of complex fuzzy information, Symmetry. 11 (2019) 1381. (Impact Factor: 2.645)
- (10) Anam Luqman, Muhammad Akram and Ali N.A. Koam, An m-polar fuzzy hypergraph model of granular computing, Symmetry. 11 (2019) 483. (Impact Factor: 2.645)
- (9) Anam Luqman, Muhammad Akram and Bijan Davvaz, q-Rung orthopair fuzzy directed hypergraphs: A new model with applications, Journal of Intelligent and Fuzzy Systems.
   37 (2019) 3777-3794.
   (Impact Factor: 1.851)
- (8) Anam Luqman, Muhammad Akram and Ali N.A. Koam, Granulation of hypernetwork models under the q-rung picture fuzzy environment, Mathematics. 7 (2019) 496. (Impact Factor: 2.258)
- (7) Anam Luqman, Muhammad Akram and Ahmad N. Al-Kenani, q-Rung orthopair fuzzy hypergraphs with applications, Mathematics. 7 (2019) 260.
   (Impact Factor: 2.258)
- (6) Anam Luqman, Muhammad Akram and Florentin Smarandache, Complex neutrosophic hypergraphs: New social network models, Algorithms. 12 (2019) 234. (ISI Indexed Journal)

#### Year 2018

(5) Muhammad Akram and Anam Luqman, A new decision-making method based on bipolar neutrosophic directed hypergraphs, Journal of Applied Mathematics and Computing. 57(1-2) (2018) 547-575.

(Impact Factor: 1.242)

#### Year 2017

- (4) Muhammad Akram and Anam Luqman, Bipolar neutrosophic hypergraphs with applications, Journal of Intelligent and Fuzzy Systems. 33 (2017) 1699-1713. (Impact Factor: 1.851)
- (3) Muhammad Akram and Anam Luqman, Certain networks models using single-valued neutrosophic directed hypergraphs, Journal of Intelligent and Fuzzy Systems. **33** (2017) 575-588.

(Impact Factor: 1.851)

- (2) Muhammad Akram and Anam Luqman, Certain Concepts of Bipolar Fuzzy Directed Hypergraphs, Mathematics. 5 (2017) 17.

  (Impact Factor: 2.258)
- Muhammad Akram and Anam Luqman, Intuitionistic single-valued neutrosophic hypergraphs, OPSEARCH. 54 (2017) 799-815.
   (ISI Indexed Journal)

#### REFEREEING AND REVIEWING

- (1) International Journal of Intelligent Systems
- (2) Mathematical Problems in Engineering (Hindawi Publishing Corporation)

## LIST OF FOREIGN CO-AUTHORS

- (1) Ahmad N. Al-Kenani, King Abdulaziz University, Jeddah, Saudi Arabia
- (2) Bijan Davvaz, Department of Mathematics, Yazd University Yazd, Iran
- (3) Ali N.A. Koam, Department of Mathematics, College of Science, Jazan University
- (4) Jose Carlos R. Alcantud, BORDA Research Unit and IME, University of Salamanca, 37007 Salamanca, Spain
- (5) Florentin Smarandache, Mathematics & Science Department, University of New Mexico, Albuquerque, NM 87131, USA
- (6) Cengiz Kahraman, Istanbul Technical University, Industrial Engineering Department, Maçka, Istanbul, Turkey

## CONFERENCES AND SEMINARS

### AS A SPEAKER

- (5) Speaker of PhD public defense at Department of Mathematics, University of the Punjab, Lahore held on 11 December 2020 on the thesis entitled "Granulation of Network Models under Fuzzy Hybrid Information".
- (4) Speaker in the departmental seminar series at Department of Mathematics, University of the Punjab, Lahore held on 08 January 2020 on the topic "Risk Evaluation in FMEA using Pythagorean Fuzzy Digraph and Matrix Approach".
- (3) Speaker in the departmental seminar series at Department of Mathematics, University of the Punjab, Lahore held on 13 November 2019 on the topic "An m-Polar Fuzzy Hypergraph Model of Granular Computing".
- (2) Speaker in the MPhil final talk at Department of Mathematics, University of the Punjab, Lahore held on 07 June 2017 on the topic "Bipolar Neutrosophic Hypergraphs with Applications".
- (1) Speaker in the departmental seminar series at Department of Mathematics, University of the Punjab, Lahore held on 3 May 2017 on the topic "Bipolar Neutrosophic Hypergraphs".

### AS A PARTICIPANT

- (5) Attended "3rd International Conference on Pure and Applied Mathematics" organized by CMAP, UMT Lahore on March 4-6, 2017.
- (4) Attended "Second Workshop on Modern Aspects of Algebra and Graph Theory" organized by CIIT, COMSATS Lahore on November 2-3, 2016.
- (3) Attended "One Day Conference on Gravitation and Cosmology" organized by Department of Mathematics, University of the Punjab, Lahore on 26th November 2016.
- (2) Attended "Workshop on Modern Aspects of Algebra and Graph Theory" organized by CIIT, COMSATS Lahore on March 27-28, 2015.
- (1) Attended the "**Departmental Seminar Series**" regularly held at Department of Mathematics, Punjab University, Lahore, 2015-2020.

## **REFERENCES**

- (1) Dr. Muhammad Akram, Professor, Department of Mathematics, University of the Punjab, Lahore.
- (2) Dr. Muhammad Riaz, Assistant Professor, Department of Mathematics, University of the Punjab, Lahore.
- (3) Dr. Musavarah Sarwar, Assistant Professor, Department of Mathematics, GC Women University, Sialkot.