

Muhammad Ishaq

Professor

School of Natural Sciences

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About

Dr. Muhammad Ishaq is working as Professor in the School of Natural Sciences. Dr. Muhammad Ishaq has a PhD in Commutative Algebra. Dr. Muhammad Ishaq has published 49 research articles & conference papers having a citation count of 454, carried out 0 projects and filed 0 intellectual property.

Qualifications

PhD in Commutative Algebra Government College University Lahore , Pakistan	2007 - 2012
MSc in Mathematics University of Peshawar , Pakistan	2004 - 2007
BSc in Math-A, Math-B, Physics University of Peshawar , Pakistan	2002 - 2004
F.Sc in Pre-Engineering Board of Intermediate and Secondary Education, Mardan , Pakistan	2000 - 2002
Matric (SSC) in Science Group BISE, Peshawar , Pakistan	1998 - 2000

Experience

Professor School of Natural Sciences	2024- Present
Associate Professor School of Natural Sciences	2019 - 2019
Assistant Professor School of Natural Sciences	2013 - 2013
Assistant Professor School of Natural Sciences	2013 - 2019
Assistant Professor School of Natural Sciences	2012 - 2013

Awards

School's Best Researcher Award for year 2018.	2019
Best Researcher Award in field of Algebra for the year 2011, awarded by ASSMS, GCU, Lahore Pakistan.	2011
Received the Best Young Speaker award in an International Conference at ASSMS, GCU, Lahore in 2011.	2011

Research Articles

An optimal and efficient framework for the construction of nonlinear components based on a polynomial ring <i>Ch muhammad afaq Aslam Muhammad Ishaq Ikram Ullah</i> <i>Mathematics and Computers in Simulation</i> , Volume: 237, Pages 263-280 Impact Factor: 4.4 Quartile: 1	2025
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DOI: <https://doi.org/10.1016/j.matcom.2025.04.022>

Algebraic invariants of edge ideals of some bristled circulant graphs <i>Ibad Ur Rehman Mujahid Ullah Khan Afridi Muhammad Ishaq Asim Asiri Aftab Hussain</i> <i>AIMS Mathematics</i> , Volume 10, Issue 5, Pages 11330-11348 Impact Factor: 1.800 Quartile: 1 DOI: 10.3934/math.2025515	2025
Mathematical modeling of irregularity indices for adriamycin and their statistical analysis for emetic drugs <i>Ibtisam Masmali Muhammad Naeem Muhammad Ishaq Ali N.A. Koam</i> <i>Ain Shams Engineering Journal</i> , Volume 15, Issue 6, Article Number:102721 Impact Factor: 6.0 Quartile: 1 Citations: 3 DOI: 10.1016/j.asej.2024.102721	2024
Regularity of the edge ideals of perfect $[\nu, h]$-ary trees and some unicyclic graphs <i>Fatima Tul Zahra Muhammad Ishaq Sarah Aljohani</i> <i>Heliyon</i> , Volume: 10, Issue: 10, Article Number: e30689 Impact Factor: 4 Quartile: 2 Citations: 1 DOI: 10.1016/j.heliyon.2024.e30689	2024
Mathematically modeling of Ge-Sb-Te superlattice to estimate the physico-chemical characteristics <i>Ruxian Chen Muhammad Naeem Muhammad Ishaq Ferdous M. Tawfiq Abdul Rauf Adnan Aslam</i> <i>Ain Shams Engineering Journal</i> , Volume 15, Issue 4, Article Number 102617 Impact Factor: 6.0 Quartile: 1 Citations: 3 DOI: 10.1016/j.asej.2023.102617	2024
Algebraic invariants of edge ideals of some circulant graphs <i>Bakhtawar Shaukat Muhammad Ishaq Ahtsham Ul Haq</i> <i>AIMS Mathematics</i> , Volume 9, Issue 1, Pages 868-895 Impact Factor: 2.2 Quartile: 1 Citations: 2 DOI: 10.3934/math.2024044	2023
Depth and Stanley Depth of the Edge Ideals of r-Fold Bristled Graphs of Some Graphs <i>Ying Wang Sidra Sharif Muhammad Ishaq Fairouz Tchier Ferdous M. Tawfiq Adnan Aslam</i> <i>Mathematics</i> , Volume 11, Issue 22, Article Number 4646 Impact Factor: 2.4 Quartile: 1 Citations: 1 DOI: doi.org/10.3390/math11224646	2023
Estimation of the physiochemical characteristics of an antibiotic drug using M-polynomial indices <i>Ibtisam Masmali Muhammad Naeem Muhammad Ishaq Ali N. A. Koam</i> <i>Ain Shams Engineering Journal</i> , Volume 14, Issue 11, Article Number 102539 Impact Factor: 6.0 Quartile: 1 Citations: 5 DOI: https://doi.org/10.1016/j.asej.2023.102539	2023
Depth and Stanley depth of powers of the edge ideals of some caterpillar and lobster trees <i>Tooba Zahid Zunaira Sajid Muhammad Ishaq</i> <i>Mathematical Reports</i> , Volume 25-75, Issue 2, Pages 199-220 Impact Factor: 0.10 Quartile: 4 DOI: doi: 10.59277/mrar.2023.25.75.2.199	2023
Some algebraic Invariants of the residue class rings of the edge ideals of perfect semiregular trees <i>Bakhtawar Shaukat Ahtsham Ul Haq Muhammad Ishaq</i> <i>Communications in Algebra</i> , Volume 51, Issue 6, Pages 2364-2383 Impact Factor: 0.7 Quartile: 3 Citations: 3 DOI: https://doi.org/10.1080/00927872.2022.2159968	2023
Some algebraic invariants of the edge ideals of perfect $[h, d]$-ary trees and some unicyclic graphs <i>Muhammad Ishaq Tazeen Ayesha</i> <i>AIMS Mathematics</i> , Volume 8, Issue 5, Pages:10947-10977 Impact Factor: 2.739 Quartile: 1 Citations: 1 DOI: 10.3934/math.2023555	2023
On Computations of Topological Descriptors of Kagome Lattice <i>Zahid Iqbal Adnan Aslam Muhammad Ishaq Wei Gao</i> <i>Polycyclic Aromatic Compounds</i> , Volume 42, Issue 8, Pages 4895-4909	2022

<p>Impact Factor: 2.195 Quartile: 3 Citations: 10 DOI: 10.1080/10406638.2021.1923537</p>	
<p>Depth and Stanley depth of the edge ideals of multi triangular snake and multi triangular ouroboros snake graphs</p> <p><i>Malik Muhammad Suleman Shahid Muhammad Ishaq Anuwat Jirawattanapanit Khanyaluck Subkrajang</i> <i>AIMS Mathematics</i> , Volume 7, Issue 9, Pages 16449-16463</p> <p>Impact Factor: 2.739 Quartile: 1 Citations: 1 DOI: 10.3934/math.2022900</p>	2022
<p>Depth and Stanley depth of the quotient rings of edge ideals of some lobster trees and unicyclic graphs</p> <p><i>Adnan Iqbal Muhammad Ishaq</i> <i>Turkish Journal of Mathematics</i>, Volume 46, Issue 5, Pages 1886-1896</p> <p>Impact Factor: 0.954 Quartile: 3 Citations: 2 DOI: 10.55730/1300-0098.3239</p>	2022
<p>Values and bounds for depth and Stanley depth of some classes of edge ideals</p> <p><i>Naeem ud Din MUHAMMAD ISHAQ Zunaira Sajid</i> <i>AIMS Mathematics</i> , Volume 6(8), Pages 8544-8566</p> <p>Impact Factor: 1.427 Quartile: 1 Citations: 7 DOI: doi/10.3934/math.2021496</p>	2021
<p>A New Approach for Forecasting Crude Oil Prices Using Median Ensemble Empirical Mode Decomposition and Group Method of Data Handling</p> <p><i>Waqas Ahmad Muhammad Aamir Umair Khalil Muhammad Ishaq Nadeem Iqbal Mukhtaj Khan</i> <i>Mathematical Problems in Engineering</i> , Volume 2021, Article ID 5589717, 12 pages</p> <p>Impact Factor: 1.430 Quartile: 3 Citations: 12 DOI: 10.1155/2021/5589717</p>	2021
<p>Depth and Stanley depth of the edge ideals of the strong product of some graphs</p> <p><i>Zahid Iqbal Muhammad Ishaq Muhammad Ahsan Binyamin</i> <i>Hacettepe Journal of Mathematics and Statistics</i>, Volume 50 (1), Pages 92-109</p> <p>Impact Factor: 0.867 Quartile: 3 Citations: 6 DOI: 10.15672/hujms.638033</p>	2021
<p>Irregularity Measures of Subdivision Vertex-Edge Join of Graphs</p> <p><i>Jialin Zheng Shehnaz Akhtar Zahid Iqbal Muhammad Kashif Shafiq Adnan Aslam Muhammad Ishaq Muhammad Aamir</i> <i>Journal of Chemistry</i> , Volume 2021, Article ID 6673221, 12 pages</p> <p>Impact Factor: 3.241 Quartile: 3 Citations: 7 DOI: https://doi.org/10.1155/2021/6673221</p>	2021
<p>Topological descriptors of poly propyl ether imine (Petim) dendrimers</p> <p><i>Asfand Fahad Muhammad Imran Qureshi Saima Noureen Zahid Iqbal Asim Zafar Muhammad Ishaq</i> <i>Biointerface Research in Applied Chemistry</i>, Volume 11, Issue 3, Pages 10968-10978</p> <p>Impact Factor: 0 Citations: 9 DOI: https://doi.org/10.33263/BRIAC113.1096810978</p>	2021
<p>Computing entire Zagreb indices of some dendrimer structures</p> <p><i>Wei Gao Zahid Iqbal Abdul Jaleel Adnan Aslam Muhammad Ishaq Muhammad Aamir</i> <i>Main Group Metal Chemistry</i> , 43: 229–236</p> <p>Impact Factor: 1.068 Quartile: 4 Citations: 10 DOI: https://doi.org/10.1515/mgmc-2020-0027</p>	2020
<p>A New Approach for Reconstruction of IMFs of Decomposition and Ensemble Model for Forecasting Crude Oil Prices</p> <p><i>Peng Xu Muhammad Aamir Ani Shabri Muhammad Ishaq Adnan Aslam Li Li</i> <i>Mathematical Problems in Engineering</i> , Volume 2020, Article ID 1325071, 23 pages</p> <p>Impact Factor: 1.305 Quartile: 4 Citations: 26 DOI: doi.org/10.1155/2020/1325071</p>	2020
<p>The measure of irregularities of nanosheets</p> <p><i>Muhammad Ishaq Zahid Iqbal Adnan Aslam Muhammad Aamir Wei Gao</i> <i>Open Physics</i> , Volume 18(1), Pages 419-431</p> <p>Impact Factor: 1.067 Quartile: 4 Citations: 9</p>	2020

DOI: https://doi.org/10.1515/phys-2020-0164	
Recognition of Contact Map Germs from the Plane to the Plane by Invariants	2020
Muhammad Ahsan Banyamin Khawar Mehmood Muhammad Ishaq Saima Aslam Hassan Mahmood <i>Comptes Rendus de L'Academie Bulgare des Sciences</i> , Volume 73(6), Pages 758-766 Impact Factor: 0.378 Quartile: 4 Citations: 5 DOI: DOI: 10.7546/CRABS.2020.06.02	
On irregularity descriptors of derived graphs	2020
Wei Gao Shehnaz Akhter Muhammad Ishaq Zahid Iqbal Adnan Aslam <i>AIMS Mathematics</i> , Volume 5(5), Pages 4085-4107 Impact Factor: 1.427 Quartile: 2 DOI: doi: 10.3934/math.2020262.	
The Edge Versions of Degree-Based Topological Descriptors of Dendrimers	2020
Zahid Iqbal Adnan Aslam Muhammad Ishaq Wei Gao <i>Journal of Cluster Science</i> , Volume 31, Pages 445-452 Impact Factor: 3.061 Quartile: 2 Citations: 21 DOI: https://doi.org/10.1007/s10876-019-01658-w	
Depth and Stanley depth of the edge ideals of the powers of paths and cycles	2019
Zahid Iqbal Muhammad Ishaq <i>Analele Stiintifice ale Universitatii Ovidius Constanta, Seria Matematica</i> , Volume: 27, Issue: 3, Pages: 113-135 Impact Factor: 0.844 Quartile: 2 Citations: 3 DOI: 10.2478/auom-2019-0037	
Characteristic study of irregularity measures of some nanotubes	2019
Adnan Aslam Muhammad Aamir Zahid Iqbal Muhammad Ishaq <i>Canadian Journal of Physics</i> , Volume: 97 Issue: 10 Pages: 1125-1132 Impact Factor: 1.032 Quartile: 3 Citations: 31 DOI: 10.1139/cjp-2018-0619	
Comparison of Irregularity Indices of Several Dendrimers Structures	2019
Dongming Zhao Rida Irfan Muhammad Ishaq Zahid Iqbal Muhammad Anwar Chaudhry Muhammad Kamran Jamil Asfand Fahad <i>Processes</i> , Vol:7(10), Article No.662 Impact Factor: 2.753 Quartile: 2 Citations: 18 DOI: https://doi.org/10.3390/pr7100662	
Depth and Stanley depth of edge ideals associated to some line graphs	2019
Zahid Iqbal Muhammad Ishaq <i>AIMS Mathematics</i> , Vol.4(3), Pages 686–698 Impact Factor: 0.882 Quartile: 2 Citations: 2 DOI: 10.3934/math.2019.3.686	
Topological Aspects of Dendrimers via Distance Based Descriptors	2019
Wei Gao Zahid Iqbal Muhammad Ishaq Adnan Aslam Rabia Sarfraz <i>IEEE ACCESS</i> , Volume 7, Pages 35619-35630 Impact Factor: 3.745 Quartile: 1 Citations: 32 DOI: 10.1109/ACCESS.2019.2904736	
On Irregularity Measures of Some Dendrimers Structures	2019
Wei Gao Muhammad Aamir Zahid Iqbal Muhammad Ishaq Adnan Aslam <i>Mthematics</i> , Volume 7, Issue 3, Article Number 271 Impact Factor: 1.747 Quartile: 1 Citations: 37 DOI: 10.3390/math7030271	
Bounds on Topological Descriptors of the Corona Product of F-Sum of Connected Graphs	2019
Wei Gao Zahid Iqbal Muhammad Ishaq Adnan Aslam Muhammad Aamir Muhammad Ahsan Binyamin <i>IEEE ACCESS</i> , Volume 7, Pages 26788-26796 Impact Factor: 3.745 Quartile: 1 Citations: 23 DOI: 10.1109/ACCESS.2019.2900061	
On eccentricity-based topological descriptors of water-soluble dendrimers	2019
Muhammad Ishaq Zahid Iqbal Adnan Aslam Wei Gao <i>ZEITSCHRIFT FUR NATURFORSCHUNG SECTION C-A JOURNAL OF BIOSCIENCES</i> , Volume: 74, Issue: 1-2, Pages: 25-33	

Impact Factor: 11.238 Quartile: 4 Citations: 26 DOI: https://doi.org/10.1515/znc-2018-0123	
Improving forecasting accuracy of crude oil price using decomposition ensemble model with reconstruction of IMFs based on ARIMA model <i>Muhammad Ishaq Muhammad Aamir Ani Shabri</i> <i>Malaysian Journal of Fundamental and Applied Sciences</i> , Volume: 14, Issue: 4, Pages: 471-483 Impact Factor: 0 DOI: 10.11113/mjfas.v14n4.1013	2018
On Theoretical Study of Zagreb Indices and Zagreb Polynomials of Water-Soluble PerylenediimideCored Dendrimers <i>Muhammad Ishaq Ani Shabri Zahid Iqbal Muhammad Aamir</i> <i>Journal of Informatics and Mathematical Sciences</i> , Volume 10, Issue 4, Pages 647–657 Impact Factor: 0 DOI: 10.26713/jims.v10i4.631	2018
On Eccentricity-Based Topological Indices Study of a Class of Porphyrin-Cored Dendrimers <i>Wei Gao Zahid Iqbal Rabia Sarfraz Muhammad Aamir Adnan Aslam Muhammad Ishaq</i> <i>Biomolecules</i> , Volume: 8 Issue: 3, Article Number: 71, Published: Sep 2018 Impact Factor: 4.694 Quartile: 1 Citations: 39 DOI: 10.3390/biom8030071	2018
Improvement on Estimating Median for Finite Population using Auxiliary Variables in Double-Sampling <i>Muhammad Aamir Ani Shabri Muhammad Ishaq</i> <i>Jurnal Teknologi</i> , Volume: 80, Issue: 5, Pages: 135-143, Published: Sep 2018 Impact Factor: 0 DOI: https://jurnalteknologi.utm.my/index.php/jurnalteknologi/article/view/10851	2018
On Eccentricity-Based Topological Descriptors of Dendrimers <i>Zahid Iqbal Muhammad Aamir Muhammad Ishaq</i> <i>Iranian Journal of Science and Technology Transaction A-Science</i> , pp 1–11 Impact Factor: 0.692 Quartile: 4 Citations: 18 DOI: 10.1007/s40995-018-0621-x	2018
On Eccentricity-Based Topological Indices and Polynomials of Phosphorus-Containing Dendrimers <i>Shin Min Kang Zahid Iqbal Muhammad Ishaq Rabia Sarfraz Adnan Aslam Waqas Nazeer</i> <i>Symmetry</i> , NULL Impact Factor: 2.143 Quartile: 2 Citations: 31 DOI: 10.3390/sym10070237	2018
Crude Oil Price Forecasting by Ceemdan based Hybrid Model of Arima and Kalman Filter <i>Muhammad Aamir Ani Shabri Muhammad Ishaq</i> <i>Jurnal Teknologi</i> , Volume:80, Issue 4, Pages 67-79 Impact Factor: 0 DOI: https://jurnalteknologi.utm.my/index.php/jurnalteknologi/article/view/10852	2018
Depth and Stanley depth of the edge ideals of square paths and square cycles <i>Zahid Iqbal Muhammad Ishaq Muhammad Aamir</i> <i>Communications in Algebra</i> , Volume 46, No. 3, Pages 1188–1198 Impact Factor: 0.501 Quartile: 4 Citations: 12 DOI: 10.1080/00927872.2017.1339068	2018
Computing Different Versions of Atom-bond Connectivity Index of Dendrimers <i>Zahid Iqbal Muhammad Ishaq Rashid Farooq</i> <i>Journal of Informatics and Mathematical Sciences</i> , Volume: 9 Issue: 1 Pages: 217-229 Published: 2017 Impact Factor: 0 DOI: http://www.rgnpublications.com/journals/index.php/jims/article/view/511	2017
Median Estimation In Simple Random Sampling By Using Two Auxiliary Variables <i>Muhammad Aamir Ani Shabri Muhammad Ishaq</i> <i>Abasyn Journal of Social Sciences</i> , Pages 376-390 Impact Factor: 0 DOI: http://ajss.abasyn.edu.pk/sparticle.php?articleID=37	2016
Lexsegment ideals are sequentially Cohen-Macaulay	2014

Muhammad Ishaq

Algebra Colloquium, Volume: 21, Issue: 4, Pages: 551-560

Impact Factor: 0.298 | **Quartile:** 4 | **Citations:** 1

DOI: 10.1142/S1005386714000509

Monomial Ideals of Minimal Depth

2013

Muhammad Ishaq

Analele Stiintifice ale Universitatii Ovidius Constanta-Seria Matematica, Volume 21, Issue 3, Pages 147-154

Impact Factor: 0.230 | **Quartile:** 4 | **Citations:** 2

DOI: 10.2478/auom-2013-0049

Upper and Lower Bounds for the Stanley Depth of Certain Classes of Monomial Ideals and Their Residue Class Rings

2013

Muhammad Imran Qureshi Muhammad Ishaq

Communications in Algebra, Volume: 41, Issue: 3, Pages: 1107-1116

Impact Factor: 0.388 | **Quartile:** 4 | **Citations:** 16

DOI: <http://dx.doi.org/10.1080/00927872.2011.630708>

Stanley depth of edge ideals

2012

Muhammad Imran Qureshi Muhammad Ishaq

Studia Scientiarum Mathematicarum Hungarica, Volume: 49, Issue: 4, Pages: 501-508

Impact Factor: 0.421 | **Quartile:** 3 | **Citations:** 3

DOI: <http://dx.doi.org/10.1556/SScMath.49.2012.4.1223>

Upper Bounds for the Stanley Depth

2012

Muhammad Ishaq

Communications in Algebra, Volume: 40, Issue: 1, Pages: 87-97

Impact Factor: 0.356 | **Quartile:** 4 | **Citations:** 16

DOI: <http://dx.doi.org/10.1080/00927872.2010.523642>

Values and bounds for the Stanley depth

2011

Muhammad Ishaq

Carpathian Journal of Mathematics, Volume: 27, Issue: 2, Pages: 217-224

Impact Factor: 0.906 | **Quartile:** 1

DOI: http://carpathian.ubm.ro/issues/absCarpathian_27_2011_2_217_224.pdf

Editorial Activities

Genghua Fan Reviewed Papers for Journals Impact Factor: 0.4	2025
Computer Systems Theory Reviewed Papers for Journals Impact Factor: N/A	2025
International Journal of Graphs and Combinatorics Reviewed Papers for Journals Impact Factor: 0.1	2025
Journal of Applied Mathematics Reviewed Papers for Journals Impact Factor: 1.21	2024
IEEE Access Reviewed Papers for Journals Impact Factor: 3.4	2024
Heliyon Reviewed Papers for Journals Impact Factor: 3.4	2024
IEEE Access Reviewed Papers for Journals Impact Factor: 3.4	2024
Journal of Applied Mathematics and Mechanics Reviewed Papers for Journals Impact Factor: 0.4	2024