

## Faculty Resume

<b>Name:</b>	<b>Dr. Mehnaz</b>
Personal:	Department: Mathematics Designation: Assistant Professor Email: <a href="mailto:mehnaz.shakeel@wumardan.edu.pk">mehnaz.shakeel@wumardan.edu.pk</a> , <a href="mailto:Maths.fwu@gmail.com">Maths.fwu@gmail.com</a>
Experience	1. Lecturer, SBBWUP (14 <sup>th</sup> April 2008-17 <sup>th</sup> April 2023). 2. Assistant Professor (18 <sup>th</sup> April 2023 till date)
Qualification	Ph. D
Honor and Awards	Gold Medalist, SBBWU, Peshawar
Memberships	<ul style="list-style-type: none"> <li>• Board of studies,</li> <li>• Convener, Academic Calendar Preparation Committee</li> <li>• Syndicate</li> </ul>
Graduate Students Postdocs Undergraduate Students Honor Students	<ul style="list-style-type: none"> <li>• Six M. Sc students</li> <li>• Three BS students</li> <li>• Two M. Phil students</li> </ul>
Service Activity	Teaching, Research
Brief Statement of Research Interest	<ul style="list-style-type: none"> <li>• Numerical solution of PDEs and fractional PDEs</li> <li>• Modeling and simulation</li> <li>• Meshless methods</li> <li>• Fractional Inverse Problems</li> </ul>
Publications	<ol style="list-style-type: none"> <li>1. Mehnaz Shakeel, Iltaf Hussain, Hijaz Ahmad, Imtiaz Ahmad, Phatiphath Thounthong, Ying-Fang Zhang, <b>Meshless technique for the solution of time-fractional partial differential equations having real-world applications</b>, <i>Journal of Function Spaces</i>, <b>2020</b>.</li> <li>2. Imtiaz Ahmad, Siraj-ul-Islam, null Mehnaz, Sakhi Zaman, <b>Local meshless differential quadrature collocation method for time-fractional PDEs</b>, <i>Discrete and Continuous Dynamical Systems –S</i>, <b>13, 2020</b>.</li> <li>3. Mehnaz Shakeel, Shahida Parveen, Siraj-ul Islam and Iltaf Hussain, <b>Numerical solution and characteristic study of time-fractional shocks collision</b>, <i>Physica Scripta</i>, <b>96, 2021</b>.</li> <li>4. Mehnaz Shakeel, Muhammad Nawaz Khan, Imtiaz Ahmad, Sayed Abdel-Khalek , Alghamdi Ahmed Mohammed, Mustafa Inc, <b>The generalized time fractional Gardner equation via numerical meshless collocation method</b>, <i>Thermal Science</i>, <b>26,2022</b>.</li> <li>5. Hajira Irshad, Mehnaz Shakeel, Imtiaz Ahmad, Hijaz Ahmad, Chutarat Tearnbucha, Weerawat Sudsutad ,</li> </ol>

	<p><b>Simulation of generalized time fractional Gardner equation utilizing in plasma physics for non-linear propagation of ion-acoustic waves</b>, Thermal Science, <b>27</b>,2023.</p> <p>6. Mehnaz Shakeel, Muhammad Nawaz Khan, Imtiaz Ahmad, Hijaz Ahmad, Nantapat Jarasthitikulchai, Weerawat Sudsutad, Local meshless collocation scheme for numerical simulation of space fractional PDE, Thermal Science, <b>27</b>, 2023.</p> <p>7. Muhammad Asif, Faisal Bilal, Mehnaz, Rubi Bilal, Nadeem Haider, Shaimaa A.M. Abdelmohsenc, Sayed M. Eldind, <b>An efficient algorithm for the numerical solution of telegraph interface model with discontinuous coefficients via Haar wavelets</b>, Alexandria Engineering Journal, <b>72</b>, 2023.</p> <p>8. Hina Zahir, Javaria Akram, Mehnaz, Reem K. Alhefthi, Rabbia Fatima, Mustafa Inc, <b>Effect of nonlinear thermal radiation and homogeneous-heterogeneous reactions on peristaltic propulsion of Johnson-Segalman fluid</b>, Ain Shams Engineering Journal, 2023.</p> <p>9. Hina Zahir, Mehnaz, Javairia Gul, Mustafa Inc, Rubayyi T. Alqahtani, <b>Impact of fractional magnetohydrodynamic and hall current on ree-eyring fluid flow by using radial basis function method</b>, Alexandria Engineering Journal, <b>88</b>, 2024.</p> <p>10. Sumaira Saleem Akhtar, Israr Ahmad, Mehnaz Shakeel, Hina Zahir, Mustafa Inc, <b>A study of Bianchi type I spacetime according to their Ricci collineations</b>, Optical and Quantum Electronics, <b>56</b>, 2024.</p> <p>11. Muhammad Asif, Faisal Bilal, Mehnaz, Imran Khan, Qasem-Al-Mdallal, <b>Extension of Haar wavelet technique for numerical solution of three-dimensional linear and nonlinear telegraph equations</b>, Partial Differential Equations in Applied Mathematics, <b>9</b>, 2024.</p> <p>12. Muhammad Nawaz Khan, Imtiaz Ahmad, Mehnaz Shakeel, Rashid Jan. Fractional calculus analysis: investigating Drinfeld-Sokolov-Wilson system and Harry Dym equations via meshless procedures, <i>Mathematical Modelling and Control</i>, <b>4</b>, 2024.</p>
Research Grants and Contracts	<ul style="list-style-type: none"> <li>▪ Nil</li> </ul>

<p>Other Research or Creative Accomplishments</p>	<ol style="list-style-type: none"> <li>1. Organized 3 days workshop on “<b>Latex</b>” for Masters students in July 2012 (13th-15th July).</li> <li>2. Organized 3 days workshop on “<b>Latex</b>” for M. Phil scholars in November 2012 (13th-15th Nov.).</li> <li>3. Organized International Workshop on Computational Mathematics with Applications on 10th March 2014, sponsored by HEC Pakistan</li> <li>4. Attended “3<sup>rd</sup> conference on sustainability in process industry, organized by UET Peshawar.”</li> <li>5. Attended “one day symposium on numerical computing and its application, organized by UET Peshawar.”</li> <li>6. Attended “National Conference on Mathematical Sciences in Engineering Applications, organized by UET Peshawar.”</li> <li>7. Attended “National Conference on Emerging trends in Computing, Statistics and Mathematical Sciences, organized by SBBWU Peshawar.”</li> <li>8. International conference on Food and Applied Sciences. Kumrat, 03-05 August 2023.</li> <li>9. Online Course organized by Coursera, Introduction to Programming with Matlab, Vanderbilt University.</li> <li>10. ICFAS, 3-5 August 2023, SBBU Shringal Dir KPK.</li> <li>11. ICST, 9-10 November 2023, Thal University Bakhar, Pakistan.</li> <li>12. 1<sup>st</sup> National Workshop on AI in Healthcare, drug discovery and allied sciences, 23 November 2023, GIK swabi, KP.</li> <li>13. 5<sup>th</sup> ICSET, 14-15 December 2023, UET Peshawar.</li> <li>14. 2 Days workshop on Machine Learning in Mathematics as Comsat University Lahore, 5-6 March 2024.</li> <li>15. One-day “seminar on Air pollution and its impact on air quality, human health and climate change” at Physics dept. WUM, 13 Nov 2023.</li> <li>16. ICRMASSD: BIA 2024 at GC university Hyderabad, 26-27 April 2024.</li> </ol>
<p>Selected Professional Presentations</p>	<ol style="list-style-type: none"> <li>1. Given lecture as a resource person in 3 days workshop on “<b>Latex</b>” for Masters students in July 2012 (13th-15th July).</li> <li>2. Given lecture as a resource person in 3 days workshop on “<b>Latex</b>” for M. Phil scholars in November 2012 (13th-15th Nov.).</li> <li>3. Given lecture as a resource person in 3 days workshop on “<b>Latex</b>” for Masters students in Dec. 2013 (25th, 26th Dec.).</li> <li>4. Paper presentation in “International conference on Modeling and Simulation 2013” in Nov. 2013 (25th-27th Nov.) organized by AIR university, Islamabad.</li> <li>5. Paper presentation at “National Conference on Mathematical Sciences in Engineering Applications, organized by UET Peshawar.”</li> </ol>

	<ol style="list-style-type: none"><li data-bbox="565 197 1373 268">6. Hands-On training workshop on basic Lab skills, 4-8 December 2023, women university mardan, KP.</li><li data-bbox="565 275 1373 380">7. 6th International Conference; Scientific outlook of sustainable Development Goals, January 2024, Women University Mardan, KP</li></ol>
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