

# Dr. Ambreen Shahnaz

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## Research Interests

Algorithmic studies of communication networks  
Machine learning  
Bioinformatics computing

## Education

- 2007- 2011                    **PhD in Computer Science**, University of Leicester, UK.  
Thesis Title: Approximating Node-Weighted Steiner Subgraphs for Multicast communication in Wireless Networks. Degree award date: 1 Feb, 2012.
- 2002- 2006                    **BS (Computer Science)**  
NWFP University of Engineering & Technology, Peshawar, Pakistan.
- 1998- 2001                    **F. Sc**, Jinnah College for Women Peshawar.

## Work Experience

- 12/09/2023-to date: Lecturer in Computer Science at Women University Mardan.
- 01/09/2021 – 11/09/2023: Lecturer in Computer Science at Shaheed Benazir Bhutto Women University Peshawar.
- 09/07/2012 - 31/08/2021: Assistant Professor in Computer Science at Shaheed Benazir Bhutto Women University Peshawar.
- 24/10/2007 - 08/07/2012: Lecturer in Computer Science, Shaheed Benazir Bhutto Women University Peshawar.
- Autumn semester 2006:

Visiting Lecturer at Computer Science & Information Technology Department, N-W.F.P  
University of Engineering and Technology Peshawar.

Subject: Automata Theory

## Publications

- Iftikhar Ahmad, **Ambreen Shahnaz**, M. Asfand-e-Yar, Wajeeha Khalil and Yasmin Bano, "A service level agreement aware online algorithm for virtual machine migration," Computers, Materials & Continua, vol. 74, no.1, pp. 279–291, issue published 22 September 2022.
- Iftikhar Ahmad, Syed Zulfiqar Ali Shah, **Ambreen Shahnaz**, Sadeeq Jan, Salma Noor, Wajeeha

Khalil, Fazal Qudus Khan, Muhammad Iftikhar Khan, "Fault Tolerant Suffix Trees", Computers, Materials & Continua, vol. 66, no.1, pp. 157–164, 2021.

- Nousheen Bibi, Sehraiz Razzaq, Faisal Nouroz, Farhat Amin, **Ambreen Shahnaz**, Mohammad Amjad Kamal, "Identification of putative multifunctional Drug against anthrax toxins via integrative computational approach", Letters in Drug Design & Discovery, Volume 17, 2020.
- Gule Saman, Neelam Gohar, Salma Noor, **Ambreen Shahnaz**, Shakira Idrees, Neelam Jehan, Reena Rashid, "Automatic detection and severity classification of diabetic retinopathy", Multimedia Tools and Applications, 79, 31803–31817 (2020). <https://doi.org/10.1007/s11042-020-09118-8>
- Iftikhar Ahmad, Muhammad Usman Akhtar, Salma Noor & **Ambreen Shahnaz**, "Missing Link Prediction using Common Neighbor and Centrality based Parameterized Algorithm", Scientific Reports, Volume 10, Pages 364, Jan 2020, doi = {10.1038/s41598-019-57304-y}.
- **Ambreen Shahnaz** and Thomas Erlebach. Approximating fault-tolerant Steiner subgraphs in heterogeneous wireless networks. In Proceedings of the 6th International Wireless Communications and Mobile Computing Conference, IWCMC 2010, Caen, France, pages 529–533, 2010.
- Thomas Erlebach and **Ambreen Shahnaz**. Approximating node-weighted multicast trees in wireless ad hoc networks. In Proceedings of the 5th International Conference on Wireless Communication and Mobile Computing, IWCMC 2009, Leipzig, Germany, pages 639–643, 2009.

### Awards

- Full-time PhD Scholarship in the field of Computer Science, awarded by Shaheed Benazir Bhutto Women University Peshawar in 2007 under Faculty Development Programme.

### Teaching

- Modern Programming Languages
- Bioinformatics Computing
- Artificial Intelligence
- Bioinformatics Software Engineering
- Object Oriented Programming
- Advanced Computer Networks
- Advanced Analysis of Algorithm
- Discrete Structures
- Database systems

### Conferences/workshops/ trainings Participated

- "Interactivity with javascript", Online Course authorized by University of Michigan and offered through Coursera, February 13, 2023 to March 13, 2023.

- 3-days training on “Quantitative Data Analysis using IBM SPSS”, 25-27th January 2023, organized by ORIC Shaheed Benazir Bhutto Women University Peshawar.
- One day workshop on SPSS, 26<sup>th</sup> May 2022, Department of Management Sciences, Shaheed Benazir Bhutto Women University Peshawar.
- Webinar on "The era of omics", 06 April, 2021, Department of Bioinformatics, Shaheed Benazir Bhutto Women University Peshawar.
- “Women Career Symposium 2020– Future Ready Talent”, Shaheed Benazir Bhutto Women University Peshawar, 18th-19th February 2020.
- 5th International Multidisciplinary Research Conference 2019, October 29-31, 2019, Shaheed Benazir Bhutto Women University Peshawar.
- “Python programming for life scientists”, 04 April 2017, Department of Bioinformatics, Shaheed Benazir Bhutto Women University Peshawar.
- 4th International Conference on Biological and Computer Sciences, 17 December 2016, Capital University of Science and Technology Islamabad.
- Six days training workshop on Innovative Teaching Techniques and Microteaching, 2nd to 7th Sep, 2013.
- Seminar on Bioinformatics Future Prospects, organized by Quality Enhancement cell, Shaheed Benazir Bhutto Women University Peshawar, March 16, 2012.
- DIMAP Summer School on Approximation and Randomized Algorithms, DIMAP, University of Warwick, UK, July 12-16, 2010.
- Postgraduate Careers Symposium for Research Postgraduates and Research Staff, University of Leicester UK, March 23, 2010.
- 25th British Colloquium for Theoretical Computer Science, University of Warwick, UK, April 06-09, 2009.
- Leicester Local GRADschool 2009, University of Leicester UK, November 02-05, 2009.

### **Title of Student Projects Supervised**

- “Dynamic social aware relay node selection in delay tolerant networks”, MS (Computer Science).
- “Analysis of google play store data using Weka”, BS(Computer Science).
- “Comparative study of routing protocols in wireless networks using network simulator 2”, BS(Computer Science).
- “File handling and string manipulation with Python programming for Bioinformatics” BS(Bioinformatics).
- “Working with biological sequences using modules of Biopython” BS(Bioinformatics).

- “A database of mutations and phylogenetic analysis of color deficiency in mammals”, BS(Bioinformatics).
- “A web design and implementation of blood disorders”, BS(Bioinformatics).
- “Online database of Bioinformatics projects on comparative modeling of proteins”, BS(Bioinformatics).