




**DEPARTMENT OF COMPUTER SCIENCE  
DYAL SINGH COLLEGE, UNIVERSITY OF DELHI  
FACULTY DETAIL**



Title	Dr	First Name	Hema	Last Name	Banati	Photograph
Designation	Professor					
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Educational Qualifications						
Degree	Institution				Year	
B.Sc(G) Computer Science	University of Delhi				1990	
M.C.A	University of Delhi				1993	
Ph.D.	University of Delhi				1993	
Career Profile						
<p>My teaching journey which started in the year 1993, right after I completed my Post graduation has helped me assimilate vast and rich experience of interacting with students at all levels:- graduate , postgraduate and Ph.D students. This was well complemented with my research work (Ph.D in year 2006) and later working on diverse areas with my Ph.D Scholars. My research journey as Advisor to Ph.D scholars; as Editorial board member in national and international journals; as examiner to M.Sc,M.C.A and Ph.D students have not only helped me in collaborating with esteemed researchers but also added depth to my research .The experience gained as an ex-member of Board of Research studies and Departmental Research Committee of Department of Computer Science in University of Delhi was highly cherishable.</p>						
Administrative Assignments (From 1 <sup>st</sup> July 2016 onwards)						
<ul style="list-style-type: none"> <li>• Teacher-in-charge, Department of Computer Science 2022-23</li> <li>• Member - IQAC,Dyal Singh College</li> <li>• Convenor- Grievance Redressal Committee- Dyal Singh College, 2021-22</li> <li>• Member –Faculty Mathematical Sciences(2016-19)</li> <li>• Managing the Department society activities including students fresher, farewell and society workshop and seminars and elections of students for the society(2017-18,2019-20,2020-2021)</li> <li>• Advisory committee member for 09 Ph.D Students –Department of Computer Science, University of Delhi</li> <li>• Web development committee convener 2018,2019,2020</li> <li>• Superintendent- practical exams for Department of Computer Science</li> <li>• Department convener- Admission committee to BSc(H) computer Science- 2017-18,2019-20,2020-21,22-23</li> <li>• Departmental representative – Library committee 2018-19,2019-20,20-21,23-24</li> <li>• Member committee for conducting students council election for college</li> </ul>						
Areas of Interest / Specialization						
Nature inspired computing , Social networks, Human Computer Interaction						

<b>Subjects Taught</b>
<b>Data Mining, Data structures, Database Management systems</b>
<b>Research Guidance</b>
<b>Ph.D students</b> <ul style="list-style-type: none"> <li>Completed till date – 09</li> <li>Pursuing - 03</li> </ul>
<b>Publications Profile (From 1<sup>st</sup> July 2016 onwards)</b>
<b>Journal</b> <ol style="list-style-type: none"> <li>V. Grover and H.Banati, 2023, “EmoRile: A Personalized Emoji Prediction Scheme Based on User Profiling”, International Journal of Business Intelligence and Data Mining Volume 22 Issue 4, pp 470–485, <a href="https://doi.org/10.1504/ijbidm.2023.130594">https://doi.org/10.1504/ijbidm.2023.130594</a> (Scopus Indexed)</li> <li>R. Chaudhary and H.Banati, 2021, “Improving convergence in swarm algorithms by controlling range of random movement”, Natural Computing, 10.1007/s11047-020-09826-y. (Impact factor 1.827), SCIE</li> <li>R. Chaudhary and H. Banati, 2020, “Study of population partitioning techniques on efficiency of swarm algorithms”, Swarm and Evolutionary Computation, Volume 55, 100672. (Impact Factor 10.267, SCIE, ISSN: 2210-6502, <a href="https://doi.org/10.1016/j.swevo.2020.100672">https://doi.org/10.1016/j.swevo.2020.100672</a>)</li> <li>A.Sharma, P Munjal and H. Banati, 2020, “Entropy-based classification of trust factors for cloud computing”, Int. J. Grid and Utility Computing, Vol. 11, No. 6, pp 747-754, ISSN 1741-847X / 1741-8488, Scopus indexed, Web of Science group list, ESCI</li> <li>R. Chaudhary and H. Banati, 2020, “Hybrid Enhanced Shuffled Bat Algorithm (HESB) for Data Clustering”, International Journal of Advanced Intelligence Paradigms (IJAIP), 2020, Vol.17 No.3/4, pp.323 - 341, ISSN 1755-0386, Scopus indexed, ESCI</li> <li>P Munjal, L Kumar, S Kumar, H Banati, 2019, “Evidence of Ostwald Ripening in opinion driven dynamics of mutually competitive social networks”, Physica A: Statistical Mechanics and its Applications, vol 522, pp 182-194, Impact factor 3.263, ISSN: 0378-4371, Scopus indexed, SCIE</li> <li>R. Chaudhary and H. Banati, 2019, “Swarm bat algorithm with improved search (SBAIS)”. Soft Computing, 23, pp 11461–11491, Impact factor 3.524, 10.1007/s00500-018-03688-4., Print ISSN 1432-7643, Online ISSN 1433-7479, Scopus indexed, SCIE</li> <li>R. Chaudhary and H. Banati, 2019, “Weighted Multi-Modal Bat Algorithm with Improved Search (wMMBAIS)”, International Journal of Hybrid Intelligence, Inderscience. Vol.1 No.4, pp.326 - 361 ISSN: 2515-4273 (Print) 2515-4281 (Online)</li> <li>N. Arora and H.Banati, 2018, “IM-GSO: A Community Directed Group Search Optimization Approach for Influence Maximization”, Cybernetics and Systems, Vol 49: Issue 7-8, 497-520, DOI: 10.1080/01969722.2018.1542854, Print ISSN: 0196-9722, Online ISSN: 1087-6553, Scopus indexed, Impact factor 1.859, SCIE</li> <li>P. Munjal, M. Narula, S.Kumar, H. Banati, 2018, “Twitter sentiments based suggestive framework to predict trends”. Journal of Statistics and Management Systems, 21(4), 685-693. (Taylor and Francis ESI Indexed), Print ISSN: 0972-0510 Online ISSN: 2169-0014, Web of Science, ESCI</li> <li>P. Munjal, D. Gaur, S. Satti, S. Kumar and H Banati, 2018, “Utilization of Semantic Web to Implement Social Media Enabled Online Learning Framework”, Vivekananda Journal of Research, vol 7, issue 1, pp 81-86.</li> </ol>

12. Yadav P., Dahiya J., Bhardwaj K., Kaur R., Chikkara A., Malik A., Saxena R. and Banati H., 2017, "Dye removal studies with ionic liquids 1-ethyl 3-methyl imidazolium lactate & 2-hydroxyethyl-trimethyl-ammonium l+lactate", International Journal of Current Research, 9, (01), 44619-44622, ISSN 0975-833X.
13. H. Banati and R. Chaudhary, 2017, "Multi-Modal Bat Algorithm with Improved Search (MMBAIS)", Journal of Computational Science, 2017, vol. 23, pp. 130–144. Elsevier, Impact Factor: 3.976, Cite Score 8.2, ISSN 1877-7503, <https://doi.org/10.1016/j.jocs.2016.12.003>, Scopus indexed, SCIE
14. Banati H., Arora N., 2016, "Detecting Communities in Complex Networks-A Discrete Hybrid Evolutionary Approach", International Journal of Computers and Applications, Taylor and Francis, 38(1), pp.29-40. Print ISSN:1206-212X Online ISSN: 1925-7074, Scopus indexed
15. Arora N., Banati H., 2016, "Multiobjective Group Search Optimization Approach for Community Detection in Networks", International journal of Applied Evolutionary Computation 7(3): pp 50-70, IGI Global. ISSN:1942-3594| EISSN:1942-3608.

#### Conference

1. Seema, N. Arora, H. Banati (2023, August), "Shuffled Flamingo Search (ShFSA) Algorithm" presented at the 12 th International Conference on Soft Computing for Problem Solving- SocProS 2023 held at Indian Institute of Technology, Roorkee, India
2. V. Grover and H. Banati (2022, July), "Understanding the Sarcastic Nature of Emojis with SarcOji". In Proceedings of Emoji 2022, 5th International Workshop on Emoji Understanding and Applications in social media CoLocated with NAACL-HLT (NAACL is ranked A at Conference Ranks) Seattle, WA, USA.
3. V. Grover and H. Banati, (2022, July), "Sarcasm Detection – Exploring Emojis and Sentiments for Sarcasm Detection", In Proceedings of The 16th International Workshop on Semantic Evaluation (SemEval is ranked B4 at Conference Ranks) (pp. 1005-1011), Seattle, WA, USA.
4. H. Banati and Seema (2021), "Proficiency Assessment of Experts in Online Social network Q/A Communities," 2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO), pp. 1-5, doi: 10.1109/ICRITO51393.2021.9596201.
5. R. Chaudhary and H. Banati, (2019), "Peacock Algorithm", IEEE Congress on Evolutionary Computation (CEC), Wellington, New Zealand, pp. 2331-2338. (Scopus Indexed), ISBN: 978-1-7281-2153-6 <https://doi.org/10.1109/CEC.2019.8790371>
6. R. Chaudhary and H. Banati, (2019), "Capitalizing Diversity for Efficiency Enhancement in Multi-Population Swarm Algorithms," 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kanpur, India, pp. 1-7. (Scopus Indexed) IEEE; ISBN: 978-1-5386-5906-9, <https://doi.org/10.1109/ICCCNT45670.2019.8944872>
7. R. Chaudhary and H. Banati. (2018), "Modified Shuffled Multi-Population Bat Algorithm". 2018, International Conference on Advances in Computing, Communications and Informatics, Bangalore,, pp 943-951. 10.1109/ICACCI.2018.8554926.
8. R. Chaudhary and H. Banati, (2018), Adaptive Multi-Swarm Bat Algorithm (AMBA). 8th International Conference Soft Computing for Problem Solving - SocProS 2018, December 17-19,
9. A. Sharma, H. Banati (2018), "Ethical Trust in Cloud Computing Using Fuzzy Logic". In: Wan J. et al. (eds) Cloud Computing, Security, Privacy in New Computing Environments. CloudComp 2016, Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications

<p>Engineering, vol 197. Springer, Cham, Print-ISBN 978-3-319-69604-1,Online –ISBN 978-3-319-69605-8, DOI <a href="https://doi.org/10.1007/978-3-319-69605-8_5">https://doi.org/10.1007/978-3-319-69605-8_5</a></p> <ol style="list-style-type: none"> <li>10. R. Chaudhary and H. Banati, (2017),"Shuffled multi-population bat algorithm (SMPbat)," International Conference on Advances in Computing, Communications and Informatics (ICACCI), Udupi, 2017, pp. 541-547. DOI: 10.1109/ICACCI.2017.8125873</li> <li>11. P. Munjal, A. Gupta, M. Abrol, H. Banati and S. Kumar, (2017),"Social Media based Opinion Mining using Lexical Sentiment Analysis," International Conference on Paradigm Shift in World Economies Opportunities and Challenges, Delhi,pp Vol 2,pp.26-30,ISBN: 978-1-63535-729-5.</li> <li>12. P Munjal, S Kumar, and H Banati. (2017), "Ontology development utilizing social network data attributed to drugs." International Conference on Computers &amp; Management (ICCM), 2017.</li> <li>13. H. Banati and R. Chaudhary, (2016),"Enhanced shuffled bat algorithm (EShBAT)," International Conference on Advances in Computing, Communications and Informatics (ICACCI), Jaipur, pp. 731-738. doi: 0.1109/ICACCI.2016.7732134, IEEE. Electronic ISBN: 978-1-5090-2029-4, USB ISBN: 978-1-5090-2028-7, Print on Demand(PoD) ISBN: 978-1-5090-2030-0.</li> <li>14. Arora N.,and Banati H., (2016),"Enhancing Group Search Optimization with Node Similarities for Detecting Communities", The International Symposium on Intelligent Systems Technologies and Applications ,pp. 303-316. Springer International Publishing. Print ISBN-978-3-319-47951-4.,Online ISBN-978-3-319-47952-1.</li> <li>15. Arora N, and Banati H., (2016), "A framework to mine communities using nature inspired algorithms", Second International Conference on Research in Computational Intelligence and Communications Networks (ICRCICN), 2016, pp 198-203, IEEE. Electronic ISBN: 978-1-5090-1047-9 CD-ROM ISBN: 978-1-5090-1045-5 USB ISBN: 978-1-5090-1046-2 Print on Demand(PoD) ISBN: 978-1-5090-1048-6.</li> <li>16. Munjal P., Arora N.,and Banati H., (2016),"Dynamics of Online Social Network based on Parametric variation of Relationship" ,Second International Conference on Research in Computational Intelligence and Communications Networks (ICRCICN), 2016,pp 241 – 246, IEEE. Electronic ISBN: 978-1-5090-1047-9 , CD-ROM ISBN: 978-1-5090-1045-5 , USB ISBN: 978-1-5090-1046-2 , Print on Demand(PoD) ISBN: 978-1-5090-1048-6 .</li> <li>17. Sharma A., Banati H., "A Framework for Implementing Trust in Cloud Computing", Proc ICC'16, International Conference on Internet of things and Cloud Computing, March 22 - 23, 2016, Article no.6, Cambridge, United Kingdom, ISBN: 978-1-4503-4063-3</li> </ol>	<p>Conference Organization/ Presentations (From 1<sup>st</sup> July 2017 onwards)</p> <ul style="list-style-type: none"> <li>● Keynote speaker- International Conference on Human-Centric Smart computing ICHCSC 2023 , 05 July 2023 <b>Title of talk</b> : "The Emotional Connect in Digital communication" held at India Habitat Centre, Delhi,India</li> <li>● Resource person - Course workshop organized by Value Addition Courses Committee (University of Delhi) in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College on October 19,2022.</li> <li>● Resource Person- Add on course 'INFORMATION AND COMMUNICATIONS TECHNOLOGY' at Swami Shraddhanand College.University of Delhi. <b>Title of talk</b>:-Exploring the Impact of Data Analysis, 27 March 2022</li> <li>● Invited Lecture- Techno based inter- school event, Indraprastha School, Dwarka, Delhi, India,Presided as Chief Guest, 26 August 2021</li> </ul>
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- Chief Guest, Webinar on " Give Your Career wings with Python organized by Department of Computer Science, Shyam Lal College (Evening) in collaboration with Internal Quality Assurance Cell (IQAC), Shyam Lal College (Evening) , 17 Jan 2022
- Delivered a talk as keynote speaker in the Sixth International Conference on Research in Computational Intelligence and Communication Networks, ICRCICN 2021, Dec 11-12 ,2021 , India  
Title of talk : **“Exploring strategies to Improve Computational Intelligence”**
- Delivered a talk as Resource Person in Add on course 'INFORMATION AND COMMUNICATIONS TECHNOLOGY' held at Swami Shraddhanand College, University of Delhi on 27 March 2021  
Title of talk : **“Exploring the Impact of Data Analysis”**
- Delivered a talk as keynote speaker in the IMPRESS-ICSR sponsored “ International Conference on Digital Communication: A Challenge for Developing Nations “ from 9- 11 November 2019 , Madhya Pradesh, India  
Title of talk : **“Social Media Communication for Efficient Online Marketing”**
- Delivered a talk as Keynote Speaker in the UGC sponsored “National Conference on Emerging Trends in Information Technology” organized by Department of Computer Science, Kalindi College, and University of Delhi. Title of the talk : **“Nature Inspired Techniques and their Applications”**
- Delivered Inaugural lecture **“ Nature Inspired Outlook for Algorithm design”** on 29 March 2019, at the Computer Society fest, CIENCIA 2019, Maitreyi College, University of Delhi
- A talk on *“Nature Inspired Computing”* in **“Women in Science: A career in Science”** on August 09, 2017 at DeenDayalUpadhyaya College, University of Delhi
- A talk on **“Nature Inspired Outlook for Social Networking”** on June 30, 2017, as a part of one week FDP on “Web & Social Media Analytics “organized by Jagannath International Management School, Vasant kunj, Delhi.
- Resource Person for “Python Programming Workshop” held on May 17 – 18, 2018 at Mira Model School, Delhi
- Resource Person for “Python Programming Workshop” held on May 19 – 20, 2018 at St Mark’s Sr. Sec. Model School, Meera Bagh, Delhi

#### Conference- TPC

- Member Editorial board- International Journal of Hybrid Intelligence, InderScience Publishers, ISSN online 2515-4281, ISSN print 2515-4273,
- Member - International Program Committee 10th International Conference on Soft Computing and Machine Intelligence, ISCMi 2023, Mexico city, Mexico
- Member TPC- International Conference on Connected Systems & Intelligence, CSI’22, Trivandrum, Kerala, India
- Member Technical program committee, 2020, 5th IEEE International Conference on Research in Computational Intelligence and and Communication Networks (ICRCICN 2020) November 26-27, 2020, Kolkata, West Bengal, India. (Online mode)
- Member –Technical Track Committee-Data Science- Grace Hopper Celebration 2019
- Member Technical program committee, 2018 4th IEEE International Conference on Research in Computational Intelligence and and Communication Networks (ICRCICN 2018) November 22-23, 2018, Kolkata, West Bengal, India.

<ul style="list-style-type: none"> <li>• Member Technical Program Committee ICACCP - 2017 , First International Conference on Advanced Computational and Communication Paradigms , 08-10 September , 2017,Sikkim,India.</li> <li>• Member Technical program committee, 2017 3rd IEEE International Conference on Research in Computational Intelligence and and Communication Networks (ICRCICN 2017) November 03-05, 2017, Kolkata, West Bengal, India.</li> <li>• Committee member – Grace Hopper CI 2019 -Track(Data Science)</li> </ul>
Research Projects (Major Grants/Research Collaboration) (From 1 <sup>st</sup> July 2017 onwards)
Awards and Distinctions (From 1 <sup>st</sup> July 2017 onwards)
Association With Professional Bodies
ACM
Other Activities like MOOCs/ Patents etc. (From 1 <sup>st</sup> July 2017 onwards)
<p><b>Books</b></p> <ol style="list-style-type: none"> <li>1. Chief Editor <b>Nature-Inspired Algorithms for Big Data Frameworks (2018)</b>;Publisher: IGI Global; Co-editors: DrShikha Mehta Jaypee Institute of Information Technology, Noida, Dr. ParmeetKaur, Jaypee Institute of Information Technology, Noida, Pages: 412,ISBN13: 9781522558521</li> <li>2. Chief Editor <b>Hybrid Intelligence for Social Networks; (2017)</b> Publisher: Springer International Publishing AG, Cham, Switzerland; Co-editors: Prof. Siddhartha Bhattacharyya, RCC Institute of Information Technology, Kolkata, Dr. Ashish Mani, Amity University, Noida and Prof. (Dr.) Mario Kppen, Kyushu Institute of Technology, Iizuka, Japan, ISBN 978-3-319-65139-2</li> </ol> <p><b>Advisory Committee Member- Ph.D. students</b></p> <ol style="list-style-type: none"> <li>1. Ms Musarrat Ahmed- (Supervisor: Dr Harmeet Kaur)- Registration 2021</li> <li>2. Mr Sushant Yadav (Supervisor: Prof Archana Singhal)- Registration 2021</li> <li>3. Ms Pratibha Yadav (Supervisor: Prof Harmeet Kaur)- Registration 2019</li> <li>4. Ms Shivani (supervisor : Sr. Prof Punam Bedi) – Registration 2019</li> <li>5. Ms Mansi Sood(Supervisor: Dr Harmeet Kaur)- Registration 2016</li> <li>6. Ms. Jaya Gera (Supervisor: Dr Harmeet Kaur)- Degree awarded 2021</li> <li>7. Ms. Vandana Gandotra(Supervisor: Prof. Archana Singhal) – Degree awarded 2013</li> <li>8. Ms. Sonia (Supervisor: Prof. Archana Singhal)- Degree awarded 2015</li> <li>9. Ms. Deepali (Supervisor: Dr Harmeet Kaur)- Degree awarded December 2015</li> </ol>

Signature of Faculty Member