Dr. S. HEMALATHA

Assistant Professor - Department of Mathematics
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women

Career Summary

- *Teaching Experience in current Institution:13 years*
- *Currently IQAC Associate Co-ordinator in SDNBVC.*
- Received best teacher award from Lions Club of Royal Excellence in 2016
- *Research Experience: 17 years, Guiding Ph.D.(Part-time) students under University of Madras.*
- *Published 25 paper in peer reviewed journals and Conference Proceedings -National and International level*
- *Completed UGC Minor research project in 2012*
- Area of Research: Formal Languages, Membrane computing, Applied Graph theory

Past experience:

- Teaching Assistant in the Division of Applied Sciences and Humanities, Madras Institute of Technology, Anna University,
- Mathematics Lecturer in the Department of Mathematics in Sree Sastha Institute of Engineering and Technology, Chennai

Academic Qualifications :

Degree	**Specialization**	**Institution/University**
Ph.D	Mathematics	Anna University
M.Phil.	Mathematics	Anna University
M.Sc.	Mathematics	Ramanujan Institute For Advanced Study In Mathematics, Madras University
B.Sc.	Mathematics	Bharathi Women's College, Madras University

Research Publications:

1. On the power of P systems with parallel rewriting and conditional communication Romanian Journal of Information Science and Technology, Vol 10 (2), PP 37-144. 2007
2. On image generation by sequential/parallel array grammars Proceedings of "International Conference on Signal Processing, Communications and Networking", Anna University,PP 70-73, 2007
3. Hexagonal splicing P system Journal of combinatorial mathematics and combinatorial computing. Vol 84 PP 113-126.2013, ISSN: 0835-3026
4. Image description based on Membrane computing with conditional communication, National conference on recent trends in mathematical computing, VIT University, Chennai -Proceedings PP 87-93, 2013, ISBN 978-93-82338-68-0
5. Pure 2D context free puzzle P system with conditional communicationProceedings Asian conference on Membrane computing, Karunya Univeristy , Coimbatore, 2014
6. A Variant of Extended Two –Dimensional Context – Free Picture Grammar, International Journal of Pure and Applied MathematicsVol:109(5) PP 51-58, 2016
7. Picture Array Generation Based on Membrane Systems and 2D Context –Free Grammars Journal of Mathematics and Informatics,vol 7, PP 33-44, 2017
8. Picture Generating P systems based on (l/u)Mode Pure 2D Context Free Grammar with Conditional Rewriting National Conference on "Automata, Graphs and Logic,2019, Narosa Publication.
9. An Array P System Based on a Variant of Pure 2D Context free GrammarsInternational Conference on Soft Computing for Problem Solving-(SOCPROS 2019),Liverpool Hope University , Liverpool, United Kingdom,2019
10. Hexagonal Array P System Based on Extended 2D Context-free Grammars'International Conference on MathematicalComputer Engineering (ICMCE-2016),Vellore Institute of Technology, (Chennai Campus), 2016
11. A Mathematical Model of Picture Array Generation Based on Membrane Systems and 2D Context-free Grammars, International conference on Viable

Synergies in Mathematical & Natural Science,Women's Christian College, Chennai, 2019

12. Numerical solution of PDE Using Two-Dimensional Chebyshev Wavelet Collocation Method International Journal of Innovative Technology and Exploring Engineering, Vol8(4), 2019, ISSN:2278-3075
13. A Comparative study of Two-Dimensional Legendre and Chebyshev wavelets with an Extended caseJournal of Physics: Conference Series -1377(2019)012009 doi:10.1088/1742-6596/1377/1/012009. 2019
14. P Systems for Patterns of Sierpi´nski Square Snowflake Curve Punjab University Journal of Mathematics(UGC CARE), 52 ISSN 1016-2526Nov-18, 2020
15. On Watson-Crick automata, Proceedings of the Second International Conference on Computational Science, Engineering and Information Technology, 151-156, 2012
16. An Array P System Based on a Variant of Pure 2D Context-Free GrammarsSoft Computing for Problem Solving 2019, 57-65, 2020 Springer, Singapore
17. A study on rewriting p systems splicing grammar systems and picture array languages, 2007, Chennai
18. D-lucky edge labeling of path families AIP Conference Proceedings 2282, 1,20032, 2020 AIP Publishing LLC
19. High Efficiency Single Input Multiple Output Dc-Dc Converter, International Journal of Pure and Applied Mathematics, 116,15 381-386, 2017
20. D-Lucky Edge Labeling of Strong and Weak Human Chain Networks Journal of Physics: Conference Series, 1724, 1, 2031, 2021 IOP Publishing