Curriculum vitae

Dr. Anupam Kumar Singh
Assistant Professor
Department of Mathematics,
C.M. College (A Constituent Unit of Lalit Narayan Mithila University),
Darbhanga, Bihar-846004, India
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Dr. Anupam K. Singh - Google Scholar
Anupam Kumar Singh (researchgate.net)

Scopus URL:- https://www.scopus.com/authid/detail.uri?authorId=57219170314

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Educational qualifications:

- **Ph. D.**
  Institute : Indian Institute of Technology (ISM), Dhanbad in 2014

  Title of Thesis : Study of Topological and Categorical Aspects of Fuzzy Automata

  Thesis supervisor : Prof. S.P. Tiwari,
  Mathematics & Computing, IIT (ISM), Dhanbad

- **M. Sc. (Mathematics)**
  Passed from Banaras Hindu University, Varanasi, U.P., India in 2010 with CGPA 8.96/10.

- **B. Sc. (Maths-Hons)**
  Passed from Banaras Hindu University, Varanasi, U.P., India in 2010 with 71.40%

- **Intermediate**
  Passed from Jawahar Navodaya Vidyalaya, Churhat, Sidhi, M.P. in 2003 with 72.20 %

- **High school**

Passed from Jawahar Navodaya Vidyalaya, Churhat, Sidhi, M.P. in 2001 with 74.40 %

National Level Test

- Qualified NET (CSIR-UGC) Examination 2010, 2011.
- Received fellowship under the CSIR-UGC Fellowship Scheme, 2010
- Qualified Graduate Aptitude Test for Engineering (GATE), 2010, 2011

Research and Academic Experiences

- Working as an Assistant Professor in Lalit Narayan Mithila University, Darbhanga (From Dec. 2017 to Till Date).
- Three years teaching experience in Amity University, Noida (From 07 Oct 2014 – 03 Dec. 2017)
- Eight month teaching experience in I.T.S. Engineering College, Greater Noida. (From 21 Jan 2014- 07 Sep. 2014)
- Five years and six month Research Experience (04 years during research in ISM, Dhanbad and 01 and half years in Amity University Noida).
- Worked in a project (Title: Fuzzy Automata and Languages: A Topological and Categorical Aspects) since more than last 3 years, as Junior research fellow (JRF) of Council of Scientific and Industrial Research (CSIR), New Delhi at Indian School of Mines, Dhanbad, India.

Research Credentials

- Ph.D. - Two [Ongoing]
  (a) Anil Kr. Ram, A Topological and Categorical Study of Neutrosophic Automata
  (b) Bikky Kumar, A Topological and Categorical Study of Bipolar Fuzzy Automata

- No. of Publications (i) **Journals**-- 21 (ii) **Proceedings**-- 03

Computer skills

- Computational Software : Mathematica, R-software
- Typesetting Software : Latex, Microsoft Office

Research interests

- Fuzzy Automata
- Fuzzy Topology
- Theory of Computation
- Category Theory
- Rough Set Theory
- Bipolar Fuzzy Set and Neutrosophic sets.

Research Collaborations

- Visit for research study in IIT Dhanbad from **01 January 2023 to 06 January 2023** with Prof. S.P. Tiwari.

- Research collaboration with Dr. Vinay Gautam, Galgotias College of Engineering & Technology (GCET), Greater Noida, India

Responsibilities at C.M. College, Darbhanga

- **Member** of a **Peer Review Committee for Academia** (a Peer Reviewed Multi-Disciplinary Research Journal) of C.M. College, Darbhanga.
- Work as a C**oordinator for NIRF-2021**.
- Member of **NAAC STEERING COMMITTEE.**
- Work as a **Head,** department of Mathematics.
- Work as a Coordinator for **National Digital Library**.
- Member of **Departmental Co-ordinators/Facilitator** for NAAC work.
- Work as a Co-ordinator for **National Scholarship Portal** in C. M. College, Darbhanga.

Published papers

- Properties of Bipolar fuzzy automata, Bikky Kumar, **Anupam K. Singh,** Anil Kumar Ram, New Mathematics and Natural Computing (World Scientific), ISSN:- 1793-7027 (Accepted), 2023. (**Impact Factor- 1.0)**

- Neutrosophic automata and reverse neutrosophic automata, Anil Kumar**, Anupam K. Singh,** Bikky Kumar, Neutrosophic Sets and Systems, ISSN:- 2331-608X (Accepted), 2023.

- Inverse fuzzy multiset automata and Inverse fuzzy multiset languages, Anupam K. Singh, Bikky Kumar and Anil Kumar, Academia, Journal of C.M. College, ISSN: 2321-9734, (2023), 10, 01-08.

- Subsystems and Fuzzy Relation Equations of Fuzzy Automata Based on Generalized Residuated Lattice, **Anupam K. Singh**, Vinay Gautam, New Mathematics and Natural Computing (World Scientific), ISSN:- 1793-7027, Vol 17(03), 607-621, 2021. https://doi.org/10.1142/S1793005721500307. (**Impact Factor- 1.19)** **SJR (2022): Q3**

- Fuzzy regular language based on residuated lattices, **Anupam K. Singh** and S.P. Tiwari, New Mathematics and Natural Computing (World Scientific), ISSN:- 1793-7027, Vol. 16 (02),363-376, 2020. https://doi.org/10.1142/S1793005720500222. (**Impact Factor- 1.19)** **SJR (2022): Q3**

- Bipolar fuzzy preorder, Alexandrov bipolar fuzzy topologies and bipolar fuzzy automata, **Anupam K. Singh,** New Mathematics and Natural Computing (World Scientific), ISSN:-

1793-7027, Vol. 15 (03) , 463-477, 2019. https://doi.org/10.1142/S1793005719500261. (**Impact Factor- 1.19**) **SJR (2022): Q3**

- A new fuzzy methodology-based structured framework for RAM and risk analysis, Dilbagh Panchal**, Anupam K. Singh,** P. Chatterjee, E. K. Zavadskar, M.K. Ghorabaee**,** Applied Soft Computing, ISSN: 1568-4946, Vol.- 74, 242-254, (2019), DOI: doi.org/10.1016/j.asoc.2018.10.033 **(Impact Factor: 8.7). SJR (2022): Q1**

- Decomposition of fuzzy automata based on lattice ordered monoid, **Anupam K. Singh,** Global Journal of Science Frontier Research: F Mathematics and Decision Sciences), ISSN:2249-4626, Vol.-18 (08),01-10, (2018).

- Fuzzy preorder, fuzzy topology and fuzzy automata based on generalized residuated lattices, **Anupam K. Singh**, Iranian Journal of Fuzzy Systems, ISSN: 1735-0654, Vol.- 14 (03), 55-65, (2017), DOI: 10.22111/ijfs.2017.3255. (**Impact Factor: 2.01**). **SJR (2019): Q2**

- Algebraic structure of type-2 fuzzy finite state automata, **Anupam K. Singh,** Saumya Pandey and S.P. Tiwari, Journal of Fuzzy Set Valued Analysis, ISSN: 2193-4169, Vol.-2017 (2), 86-95, (2017), DOI: 10.5899/2017/jfsva-00366.

- On IF-closure space vs. IF-rough sets, **Anupam K. Singh,** S.P. Tiwari, Annals of Fuzzy Mathematics and Informatics (AFMI), ISSN:2093-9310, Vol.-11(1), 159-171, (2016).

- Bifuzzy core of fuzzy automata, S.P.Tiwari, **Anupam K. Singh**, S. Sharan, V. Yadav Iranian Journal of Fuzzy Systems, ISSN: 1735-0654, Vol. - 12 (2), 63-73, (2016). DOI: 10.22111/ijfs.2015.1982. (**Impact Factor: 2.01**). **SJR (2019): Q2**

- On Algebraic Study of fuzzy automata, S.P.Tiwari, V. Yadav, **Anupam K. Singh**, International Journal of Machine Learning and Cybernetics, ISSN:1868-8071, Vol.-6 (3), 479-485, (2015), DOI: 10.1007/s13042-014-0233-5. (**Impact Factor 4.37**). **SJR (2022): Q1**

- IF-preorder, IF-topology and IF-automata, S.P.Tiwari, **Anupam K. Singh**, International Journal of Machine Learning and Cybernetics, ISSN: 1868-8071, Vol. - 6 (2), 205-211, (2015), DOI: 10.1007/s13042-013-0191-3. (**Impact Factor 4.37**). **SJR (2022): Q1**

- Construction of a minimal realization and monoid for a fuzzy language: A categorical approach, S.P.Tiwari, V. Yadav, **Anupam K. Singh**, Journal of Applied Mathematics and Computing, ISSN:1598-5865, Vol.- 47 (1-2), 401-416, (2015), DOI: 10.1007/s12190-014-0782-5. (**Impact Factor 2.196**). **SJR (2019): Q3**

- On Minimal Realization of Fuzzy Behavior and associated categories, S.P.Tiwari, **Anupam K. Singh**, Journal of Applied Mathematics and Computing , ISSN: 1598-5865, 45, 223-234, (2014), DOI: 10.1007/s12190-013-0720-y. (**Impact Factor 2.196**). **SJR (2019): Q3**

- Fuzzy subsystems of fuzzy automata based on lattice-ordered monoid, S.P.Tiwari, **Anupam K. Singh**, **S. Sharan**, Annals of Fuzzy Mathematics and Informatics (AFMI), ISSN: 2093-9310, Vol.- 7 (3), 437-445, (2014).

- On the Topological Structure of Rough Soft Sets, V. Gautam, V. Yadav, **Anupam K. Singh**, S.P.Tiwari, Lecture notes in computer sciences, Rough Sets and Knowledge Technology, ISBN- 978-3-319-11740-9, Vol.- 8818, 39-48, (2014), DOI: 10.1007/978-3-319-11740-9_4.

- On coverings of products of rough transformation semigroup, S.P.Tiwari, S. Sharan, **Anupam K. Singh**, International Journal of Foundation of Computer Sciences, ISSN: 1793-6373, Vol.-24 (3), 375-391, (2013), DOI: 10.1142/S0129054113500093. (**Impact Factor: 0.8**). **SJR (2019): Q2**

- Roughness in banach algebra, S.P. Tiwari, S. Sharan, B. Ghosh, **Anupam K. Singh**, Journal of The Orissa Mathematical Society, ISSN: 0975-2323, Vol.- 32 (1), 47-58, (2013).

- On bijective correspondence between IF-preorder and saturated IF-topologies, S.P. Tiwari, **Anupam K. Singh**, International Journal of machine Learning and Cybernetics , ISSN: 1868-8071, Vol.- 4 (6), 733-737, (2013), DOI: 10.1007/s13042-013-0157-5. (**Impact Factor 4.37**). **SJR (2019): Q1**

- On L-fuzzy subsystems of L-fuzzy automata, **Anupam K. Singh**, S.P.Tiwari, Proceedings of the national conference on recent advances in mathematics and its applications (RAMA-2013) (Allied Publishers Pvt. Ltd.), Vol.-02, 133-139, ISBN- 9788184248210, (2013)

- Fuzzy preorder, Fuzzy topology and Fuzzy transition system, S.P.Tiwari, **Anupam K. Singh**, Springer Lecture Notes in Computer Science Series, Springer, Berlin, Heidelberg & ISBN- 978-3-642-36039-8, Vol.-7750, 210-219, (2013), DOI: 10.1007/978-3-642-36039-8_19.

- Fuzzy automata based on lattice ordered-monoid and associated topology, S.P.Tiwari, **Anupam K. Singh**, **S. Sharan**, Journal of Uncertain Systems, ISSN: 1752-8917, Vol.- 6, 51-55, (2012). **(Impact factor: 1.52).**

Members in professional bodies

- Senior member of 'International Association of Computer Science and Information Technology' (IACSIT), Singapore.

- Life member of 'International Rough Set Society (IRSS)'.

- Member of 'International Association of Engineers' (IAENG), Hong Kong.

- Life member of 'Society of Applied Mathematics (SAM)', Indian school of Mines, Dhanbad, India.

U.G & P.G. Student Project Guide:

- Miss Swati Singh, Intuitionistic fuzzy homomorphism on Intuitionistic fuzzy lattice.(PG), 2014
- Miss Shailja Sharma, T-norms & T-conforms and its Applications. (PG), 2015
- Priyanshu Sharma, Fuzzy rings and its application (UG), 2016.
- Nitish Kumar, Fuzzy preorder, Fuzzy topology based on generalized residuated lattices. (PG) 2016
- Miss Mahima Chaudhary, Inverse fuzzy multiset automata and Inverse fuzzy multiset languages (PG) 2017.
- Miss Aditi Singh, Bipolar fuzzy preordered set (PG) 2015
- Miss Amrita Chaudhary, Types of automata with generalized fuzzy states (PG) 2016
- Miss Shivangi Garg, Automorphism group on an inverse fuzzy multiset automata (PG) 2017

Chair Session

- Chaired a Session in the "**Recent Advances in Pure & Applied Algebra (RAPAA)**", held at NIT, Jamshedpur, India, during 26-28 October, 2021.

- Chaired a Session in the "**International Conference on Innovation and Application in Science and Technology",** held at Department of Applied Sciences, Galgotias College of Engineering & Technology, during 21-23 December 2021.

Guest Lecture

- An online lecture on '**Applications of Applied Mathematics', in Amity *Institute of Applied Sciences,* Amity *University Uttar Pradesh, Noida, on 21st May 2022.***

Workshops/Seminars/Conferences participated/paper presented

- Participated in the **International Conference on Logic, Information, Control and Computations (ICLICC) 2011** organized by Gandhigram Rural Institute - Deemed University, Gandhigram, Tamil Nadu, India, during 25– 27 Feb., 2011

- Presented a paper entitled "**IF-preorder and IF-topology**" held at Department of Mathematics, and DST-Centre for Interdisciplinary Mathematical Sciences (CIMS), Banaras Hindu University, during 18 -22 Nov., 2012

- Presented a paper entitled "**Decomposition of Fuzzy Automata Based on Lattice-Ordered Monoid**" in International Conference on Frontiers of Mathematical Sciences with Applications

(ICFMSA 2012) organized by Calcutta Mathematical Society, during 07 – 09 Dec. 2012 at West Bengal, India.

- Presented a paper entitled "**Fuzzy Automata Based on Lattice- Ordered Monoid Associated with algebraic and Topological aspects**" in National Conference on Recent Trend in Mathematics & Statistics at Gorakhpur University, Gorakhpur, India during 12-13 March, 2012.

- Presented a paper entitled "**Bifuzzy Core of Fuzzy Automata**" in 2nd International Conference on Rough Sets, Fuzzy Sets and Soft Computing (ICRFSC12) organized by Department of mathematics and Fuzzy and Rough set Association at Tripura University, Agartala, India during 17-19 Jan., 2013.

- Presented a paper entitled "**On L-fuzzy subsystems of L-fuzzy automata**" in N**ational conference on recent advances in mathematics and its applications (RAMA-2013) organized by** Department of Applied Mathematics, Indian School of Mines, Dhanbad, India, during 14-16 Feb. 2013.

- **Organizing Committee Member** in International Conference on Special Functions & Their Applications (ICSFA 2015) organized by Department of Mathematics, AIAS, Amity University Noida, during 10-12 Sep. 2015.

- Participated in the "**National webinar on Fuzzy Modeling and Decision Making Applications"**, organized by Department of Mathematics in association with ISTE Saintgits Chapter on 1st August, 2020.

- Participated in the "**Two Day Online National Seminar on Recent Research Topics in Mathematics**", organized by Department of Mathematics, Auxilium College (Autonomous), Vellore on 28th -29th May, 2020.

- Completed "**One Week Faculty Development Programme on Latex & Xfig**", organized by IQAC, A.N. College, Patna in association with Indian Institute of Technology-Bombay through Spoken Tutorial, Remote Learning (**An initiative of National Mission of Education through ICT, MHRD, Govt. of India**), during 11th -17th May, 2020.

- Participated in **"One Day National Webinar on Current Research in Fuzzy Mathematics",** organized by PG & Research Department of Mathematics, Sri Pushpam College (Autonomous), Tamil Nadu, on 24th May 2020.

- Completed "**One Week Faculty Development Programme on Software Training Programme**", organized by R.K. College in association with Indian Institute of Technology-Bombay through Spoken Tutorial, Remote Learning (**An initiative of National Mission of Education through ICT, MHRD, Govt. of India**), during 06th -12th May, 2020.

- Participated in "T**wo weeks Refresher course on Mathematics"**, organized by Department of Mathematics, Ramanujan College in collaboration with Teaching Learning Centre, Ramanujan College, New Delhi, during 16-30 March 2021.

- Participated in "**One Month Induction Training/Orientation Programme for Faculty in Universities/Colleges of Higher Education"**, organized by Department of Mathematics, Ramanujan College in collaboration with Teaching Learning Centre, Ramanujan College, New Delhi, during 26th June-24th July 2020.

- Participating in an International **online workshop on "New Trend in Fuzzy and Rough Set Theory and its Applications"**, organized by Department of Mathematics and Statistics, School of Basic Sciences, Manipal University Jaipur, India, during 25 -29 Sep 2020.

Reviewers

- Annals of Fuzzy Mathematics & Informatics
- Mathematical Problems in Engineering, Hindawi
- Iranian Journal of Fuzzy Systems.
- Journal of Applied Mathematics and Computing (Springer).
- Journal of Fuzzy Set Valued Analysis
- International Conference on Innovation & Applications in Science & Technology (ICIAST-2021)
- Asian Journal of Advances in Research (MB International Media & Publishing House)
- Journal of Advances in Mathematics and Computer Science.

Achievements in Sports:

- National and Regional Level Volleyball Player.
- "Volleyball" and "Short Put", College level.

Personal details

Name : Dr. Anupam Kumar Singh
Marital Status : Married
Father's Name : Shri Dhruva Singh
Date of Birth : 01 Feb. 1986
Category : General
Nationality : Indian
Permanent Address : Village –Bharpura, Post-Bharpura, District- Mirzapur, Uttar Pradesh-231001, India.

References

1. **Prof. S. P. TIWARI**

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