



Name : **Dr. Arun Kumar**
Designation : Assistant Professor
Department : Mathematics
Qualification : Ph.D.
Phone : 94188-87925
Email id : arunch.925@gmail.com
Date of Birth : 29-04-1989
Joining Date : 25-09-2018

Specialization: Mathematics (Cryptography)

Educational Qualification:

Name of the Degree	Year of Passing	Institute/University
Ph. D.(Mathematics)	2022	Department of Mathematics, Himachal Pradesh University, Shimla
M. Phil. (Mathematics)	2016	Department of Mathematics, Himachal Pradesh University, Shimla
M. Sc.(Mathematics)	2011	Department of Mathematics, Himachal Pradesh University, Shimla

Teaching Experience:

Position Held	Department and Organization	From	To	Total Experience
Assistant Professor	Department of Mathematics, M. P. G. C. Amb	25-09-2018	Till Now	Approx.06 Years

Honors & Recognitions:

Sr.No.	Title	Activity	Given By	Year
1	UGC-RGNF	Mathematics Sciences	Govt. of India	2015
2	UGC NET	Mathematics Sciences	CSIR	2016

Publications:

1. P. L. Sharma, Shabnam Sharma and **Arun Kumar**, *A Symmetric Cryptosystem Based on Irreducible Polynomials over Finite Fields*, CPUH-Research Journal, Vol. 2(2), pp 45-50, 2017.
2. P. L. Sharma, **Arun Kumar** and Shalini Gupta, *Maximum Distance Separable Hankel Rhotrices over Finite Fields*, J. of Combinatorics, Information & System Sciences, Vol. 43(1-4), pp 13-48,2018.
3. P. L. Sharma, **Arun Kumar** and Shalini Gupta, *Hankel Rhotrices and Constructions of Maximum Distance Separable Rhotrices over Finite Fields*, Applications and Applied Mathematics: An International Journal (AAM), Vol. 14(2), pp 1197-1214, 2019.
4. P. L. Sharma, **Arun Kumar** and Shalini Gupta, *Trace of the positive integral powers of three and five dimensional rhotrices*, Bulletin of Pure and Applied Sciences Section - E - Mathematics & Statistics, Vol. 39E (1), pp 165–175, 2020.

5. P. L. Sharma, **Arun Kumar** and Arun Kumar Sharma, *On the characteristic roots and heart of a class of rhotrices over a finite field*, Bulletin of Pure and Applied Sciences Section - E - Mathematics & Statistics, Vol. 39E (2), pp 277–288, 2020.
6. P. L. Sharma, **Arun Kumar** and Ashima, *Some trace inequalities of a special type of rhotrix*, GANITA, Vol.72(1), pp.57-67 2022.
7. Neetu Dhiman, Mansi Harish, Shalini Gupta and **Arun Kumar**, *On Constructions of Maximum Distance Separable Pascal-Like Rhotrices over Finite Fields*, Applications and Applied Mathematics: An International Journal (AAM), Vol. 19 (3) Special Issue No. 12, pp 1197-1214, 2019.

National / International Conferences attended:

1. Attended “*National Instructional Workshop on Cryptology (NIWC-2015)*” organized by Department of Mathematics & Cryptology Research Society of India (CRSI) held at Himachal Pradesh University Shimla-5 held on 18th-22nd May, 2015.
2. Attended and Presented a paper entitled “*Differential Cryptanalysis of Data Encryption Standard*” in “*National Seminar on Algebra and Allied Field*” organized by Department of Mathematics & Statistics (Under UGC Special Assistance Programme-DRS-II) Himachal Pradesh University, Shimla held on 24th-25th March, 2017.
3. Attended and Presented a paper entitled “*Analysis of data encryption standard in Block Cipher*” in “*National Conference on Changing Trends, Future Challenges and Innovations in Science & Technology (CTFCIST-2017)*” organized by A P Goyal Shimla University, Shimla held on 25th-26th May, 2017.
4. Attended “*Instructional School for Teachers on Groups and Rings*” organized by Himachal Pradesh University, Shimla and Funded by National Centre for Mathematics (A Joint Centre of TIFR and IIT Bombay) held on 05th-17th June, 2017.
5. Attended “*National Instructional Workshop on Cryptology (NIWC-2017)*” organized by Sharda University, Greater Noida & Cryptology Research Society of India (CRSI) held on 06th-08th October, 2017.
6. Attended and Presented a paper entitled “*Maximum distance separable hankel rhotrices over finite fields*” in “*International Conference on Algebra and Continuum Mechanics*” organized by Department of Mathematics & Statistics (Under UGC Special Assistance Programme-DRS-II) Himachal Pradesh University, Shimla held on 23th-25th November, 2018.
7. Attended and Presented a paper entitled “*Visco-Elastic MHD Convection Flow in a Vertical Channel with Slip Condition and Radiation Heat*” in “*National Seminar on Analytical Aspects of Dynamics*” organized by Department of Mathematics, Central University of Himachal Pradesh held on 22th-23th November, 2019.
8. Attended and Presented a paper entitled “*A Mechanism for Encryption and Decryption using n-Dimensional Polynomials*” in “*International Conference on Mathematics in Space and Applied*

- Sciences (ICMSAS-2019)*” organized by Department of Mathematics, NSCBM Govt. College, Hamirpur (H.P.) held on 29th-30th November, 2019.
9. Attended “*National Webinar on Cryptology*” organized by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon in collaboration with Indian Institute of Information Technology, Lucknow held on 10th-12th September, 2021.
 10. Attended “*International Conference on Class Groups on Number Fields and Related Topics – 2021 (online)*” organized by the Kerala School of Mathematics held on 21st-24th October, 2021.
 11. Attended and presented a paper entitled “*A Symmetric Cryptosystem based on Irreducible Polynomials over Finite Field.*” in “*International Conference on Recent Trends in Mathematical Science (ICRTMS-2021)*” organised by Himachal Ganita Parishad held on 11th and 12th December, 2021.
 12. Participation in “*National Seminar on: The New Education Policy of India : Challenges and Future Prospects*” organised by SVGC Ghumarwin held on 20th December, 2021.
 13. Attended “*Four Week Faculty Development Programme (FIP-21)*” organized by the Teaching Learning Centre, Ramanujan College University of Delhi held on 20 April -19 May, 2022.
 14. Attended “*Two Week Induction Training Programme*” organized by the “*State Council of Education Research & Training (SCERT), Solan (H.P.)*” held on 25th July to 06th August, 2022.
 15. Attended and presented research paper entitled “*Role of Phytoremediation Technology in Heavy Metal Removal from Natural Environment*” in “*National Conference on Role of Science and Technology in Environmental Conservation and Sustainable Development*” Jointly Organized by Department of Biosciences & HPU Biological Society Himachal Pradesh University held on 23rd and 24th September, 2022.
 16. Attended and presented research paper entitled “*The New National Education Policy of India:2020 An Overview*” in the “*National Conference on Culture, Science, Spirituality & Education*” organized by the Government College Bassa (Gohar), Mandi, Himachal Pradesh in association with Pratibha Spandan Society, Shimla on 23rd December, 2022.
 17. Attended and presented a paper entitled “*Some inequalities of a special type*” in “*2nd International Conference on Recent Trends in Mathematical Science (ICRTMS-2022)*” organized by Himachal Ganita Parishad held on 27th & 28th December, 2022.
 18. Attended and presented research paper entitled “*Human Communities and the Environment*” in “*National Conference Environmental Concerns in the Himalayan Region*” organized by the IQAC, Govt. College Jukhala held on 20th May, 2023.
 19. Attended “*Two Week Refresher Course in Mathematics Science*” organized by the “*Malaviya Mission teachers Teaching Centre (Formerly UGC HRDC) University of Jammu*” held on 19th February 2024 -03rd March, 2024.
 20. Attended and presented research paper entitled “*Formulation of some Standard Inequalities as Optimization Problems*” in “*International Conference on Advances in Mathematical Science, Scientific Computing and its Application*” organised by Department of Mathematics , Centre of

Excellence, Govt. College Sanjoli, SHIMLA-6 funded by DBT-Govt. of India held on 22nd and 23rd March, 2024.

21. Co-chaired a Technical Session in “*International Conference on Advances in Mathematical Science, Scientific Computing and its Application*” organised by Department of Mathematics , Centre of Excellence, Govt. College Sanjoli, SHIMLA-6 held on 22nd and 23rd March, 2024.
22. Attended and presented research paper entitled “*Calculating Biological Diversity: Mathematical Tools for Ecological research*” in *International Conference on “The Role of Technology to Combat the Triad in crises: Biodiversity Loss, Climate Change and A Sustainable Future*” organised by IQAC and Faculty of Science, Dr. Sarvepalli Radhakrishnan Govt. Degree College Dharmpur, Mandi(H.P.) on 24th to 25th October, 2024.

Lectures delivered:

1. Delivered a lecture on Celebrated Distt. Level National Mathematics Day-2021 at GSSS Ghagus.

Life Membership:

1. Cryptology Research Society of India (CRSI)

Date :

Place :

Signature