

Name: Dr. Chetna

Designation: Assistant Professor

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Education:

M.Sc. Mathematics (2002, H.P. University, Shimla)

M.Phil Mathematics (2007, C.D.L.U. Sirsa)

Ph.D. (10th Nov, 2017, Punjabi University, Patiala)

Title of Ph. D Thesis: Integral Representation of N-Ary Quadratic Forms with reference to Ternary forms.

Professional Experience:

Total work experience till date is around Sixteen years. The major details are as under:

- Presently working as Assistant Professor in the Department of Mathematics, M.M. Modi College, Patiala since August, 2008.
- Worked as Lecturer in the Department of Applied Sciences, Govt. Polytechnic for Women, Chandigarh from August, 2004 to June 2008.
- Worked as Lecturer in Regional Institute of Management & Technology, Mandi Gobindgarh from 15th September, 2003 to 22nd July, 2004.
- Taught for some time as visiting faculty in Yadvindra Public School, Patiala in the year 2003.
- Taught at Thapar Polytechnic, Patiala from 13th August 2003 to 13th September 2003.

Teaching Interests:

- Discrete Mathematics
- Topology

- Geometry
- Differential Equations

Research Interest:

Quadratic Forms; Number theory; Mathematical Finance; Cryptography.

Paper Publications:

1. Dr. Dhiraj Sharma and **Dr. Chetna** “*An Evaluation of Shannon and Weaver’s Mathematical Theory and its Applications in Human Communication*” RIMT Journal of Strategic Management and Information Technology, (2005) 2(3,4): 23-35.

<https://drive.google.com/file/d/1w06JPv1X5H3jFwGvK9irRO0Vhv97ovu8/view?usp=sharing>

2. **Dr. Chetna** and Dr. Hardeep singh “*Representations by Quadratic Forms: A Review of Significant Developments*” International Journal of Education and applied research (IJEAR), (2015) 5(2):14-16.

<http://ijear.org/vol5/aetm2015/2-Ms-Chetna.pdf>

3. **Dr. Chetna**, Dr Gurmeet Singh and Dr. Hardeep Singh “*Linkage between the integral representation of the elements by quadratic forms and their solutions*” Mathematical Sciences International Research Journal, (2015) 4(1): 11-13.

<https://drive.google.com/file/d/1wiau7qdMQvQZo6nK9dMYrLFMI7Yxbck5/view?usp=sharing>

4. **Dr. Chetna** and Dr. Hardeep Singh “*Representation of Numbers Divisible by Sufficiently Large Squares*” Engineering Sciences International Research Journal, (2015) 3(2):73-75.

<https://drive.google.com/file/d/1wSs2ED7IN6jpuXpQM1Sfl6EYMo3CDE-i/view?usp=sharing>

5. **Dr. Chetna** “*Representation by Quadratic Forms over Field of the P-adic Numbers*”

International Journal of Computer Science and Technology, (2016) 7(1): 36-39.

<http://www.ijcst.com/vol71acsect/3-ms-chetna.pdf>

6. **Dr. Chetna** “*Representation of Quadratic Forms: A Tool for Coding and Cryptography*”

International Journal of Electronics and Communication Technology, (2017) 8(2): 96-98.

<http://www.iject.org/vol8/issue2/21-ms-chetna.pdf>

7. **Dr. Chetna** “*Representation By The Form With Odd Prime Invariants*” International Journal of Creative Research Thought, 2018 6(2):2098-2100.

<http://www.ijert.org/papers/IJCRT1892322.pdf>

8. **Dr. Chetna** “*Representation By The Form $f(x_1, x_2, x_3)$ With Mutually Simple Odd Invariants $[d, k]$* ” International Journal of Research and Analytical Reviews, (2018) 5(2):330-333.

http://ijrar.com/upload_issue/ijrar_issue_796.pdf

9. **Dr. Chetna** “*Cryptography For Online Security: Applications Of Number Theory*” PIMT Journal of Research, (2018) 10(2):61-63.

<https://drive.google.com/file/d/1w9g2g2V4UIUpCiyHUcTT4fKuZXyoVlyI/view?usp=sharing>

10. **Dr. Chetna** “*Representation of Integers By Form $f(x_1, x_2, x_3)$ Over The Field $\Delta_{f,m}$* ”

Mathematical Journal for Interdisciplinary Sciences, (2018) 6(2):119-121.

<https://mjis.chitkara.edu.in/index.php/mjis/article/view/18>

11. **Dr. Chetna** “*Evaluation of Options using The Cox-Ross-Rubinshtein Mathematical Model*” Research & Reviews: Discrete Mathematical Structures, (2018) 5(3):56-58.

<https://drive.google.com/file/d/1w2uCfeijFZOwRZWbf4a5RJsndX175704/view?usp=sharing>

Book Published:

Applied Mathematics II, India Publishing House, Jalandhar, 2004.

Editor:

Managing Editor for the Special Issue of Journal of Communication Engineering & systems, Volume 8, Issue 2, August 2018.

Conference / Seminars:

A) Resource Person / Invited Lectures:

1. Delivered a lecture on 'Mathematics in Business Life' on 28th April 2012 at RIMT, Mandi Gobindgarh.
2. Presented a talk on 'Business mathematics' on 28th September 2013 at RIMT, Mandi Gobindgarh.
3. Delivered a lecture on 'Number Theory' on 3rd April'2014 at RIMT, Mandi Gobindgarh.

B) Conferences Attended and Paper presented:

1. Attended **One Day** Online Capacity Building Program on "**Basic Tools and Techniques for Online Teaching**" organized by **Punjabi university Patiala**. (09-08-2020 from 11:30 AM to 2:00 PM).
2. Completed a **4-Week Induction/Orientation Programme** at Ramanujan College University of Delhi under the aegis of **MHRD** and obtained **grade A+**. (June 26 - July 24, 2020)
3. Attended and participated in **7 Days FDP** on "**RESEARCH METHODOLOGY FOR SOCIAL SCIENCES**" organised by **M.M.Modi College, Patiala, Punjab** in collaboration with **CTEF(Pb.& Chd. Chapter)**. (June 20-26, 2020).
4. Paper Presented titled **Mathematical Models for Finance** at IKG PTU Sponsored National Seminar on 29th March, 2017, at Chandigarh Group of Colleges, Jhanjeri, Mohali.
5. Paper Presented titled **Applications of Number theory in Information Security** at International Conference on 1-2nd December, 2016 at **NITTTR Chandigarh**.
6. Paper Presented titled **Representation by Quadratic Forms over Field of P-adic Numbers** on 22nd January, 2016 on Advances in Computer Science, Electronics and Communication Technologies at Thailand.
7. Paper Presented titled **Representation of Numbers Divisible by A Sufficiently Large Squares** held on 9-10th October, 2015 at Vijayawada, Andhra Pradesh.

8. Paper Presented titled **Representations by Quadratic Forms: A Review of Significant Developments** at International Conference on Advancements in Engineering, Technology and Management on 23rd July 2015 at Thailand.
9. Paper Presented titled **Linkage between the Integral Representation of the Elements by Quadratic Forms and their Solutions** at International conference on Advances in Mathematical Science on 19-21st March, 2015 held at **GSSDSG Khalsa College**, Patiala.
10. Paper Presented titled **Integral Representation of n-ary Quadratic Forms: A Review** at 18th Punjab Science Congress on 9th February, 2015 held at Desh Bhagat University, Mandi Gobindgarh.
11. Paper Presented titled **Security Issues in E-banking** in 2nd National Conference held at Chandigarh University, Punjab on 7th February 2015.
12. Paper Presented titled **Integral Representation by Ternary Quadratic Forms** at the International Conference on Advances in Computer Science, Electronics and Communication Technologies on 17th January, 2015 at Thailand.
13. Paper Presented titled **Applications of Quadratic Forms in Secured Communication** at the International Conference on 1st November, 2014 at ICSSR North Western Regional Centre, Panjab University, Chandigarh.
14. Paper Presented titled **Mathematics for Option Pricing** at one day National Seminar on 10th April, 2014 organized by the Institute of Cost Accountants of India at Thapar University, Patiala.
15. Participated in National Seminar on **Mathematics and its Applications** on 20th December, 2012 in the Department of Mathematics at Punjabi university, Patiala.
16. Paper Presented titled **Mathematical Theory of Communication: An Assessment** at AICTE Sponsored National Seminar on 'Service Sector Management' held on 09th -11th March, 2006, Regional Institute of Management & Technology, Mandi Gobindgarh.

Workshops and training courses

1. Attended **AICTE** Recognized One Week Short Term Course On "**Cyber security**" at **NITTR, Chandigarh.** (27/05/2019 to 31/05/2019).
2. Attended UGC sponsored **7 days FDP** on Academic Writing from Critical Appreciation to Publication organized by IQAC, **M. M. Modi College**, Patiala. (Jan 09-16, 2017).
3. Attended one day national workshop sponsored by IPR Division, MoC & IT, Government of India at Punjabi University, Patiala. (13th May, 2016).

4. Attended UGC sponsored **15 days** Faculty Development Programme organized by **M. M. Modi College**, Patiala.(1st July to 15th July 2014).
5. Attended **Advanced Instructional School** on Quadratic Forms held at **IISER**, Mohali. (2nd June, 2014 to 20th June, 2014).
6. Attended A Short Term Training Programme on Demonstrative Entrepreneurship Awareness Programme Conducted by Entrepreneurship Development & Industrial Coordinator, at Govt. Polytechnic for Women, Sector-10 Chandigarh. (26/10/2004 to 26/10/2004)
7. Attended a Short Term Training Programme on Setting Question Papers Conducted by Education and Educational Management at **Govt. Polytechnic for Women**, Sector-10 Chandigarh. (02/09/2004 to 06/09/2004)

Achievements, Awards and Recognitions

Young Scientist Award presented by Cosmic Group of Journals on 7th June'2018 at International Conference on Advancements in Engineering, Technology and Management'2018, Bangkok, Thailand.