Shruti Sharma

M.Sc., Ph.D. (Mathematics)
Yadavindra Department of Sciences
Punjabi University Guru Kashi Campus
Talwandi Sabo (Bathinda)

📞 +91 9988664334
✉ sharma_stary2k@yahoo.co.in

Employment History

2006 – present	🔖 **Assistant Professor,** Yadavindra Department of Sciences, Punjabi University Guru Kashi Campus, Talwandi Sabo.
2005 – 2006	🔖 **Lecturer,** S.K.B.D.A.V. Centenary Sen. Sec. School, Fazilka.

Education

2017 – 2021	🔖 **Ph.D., Thapar Institute of Engineering and Technology, Patiala.**
2003 – 2005	🔖 **M.Sc. (Mathematics), Panjab University, Chandigarh.**

Ph.D. Thesis

Title	🔖 Combinatorics of Mock Theta Functions and q-Series.
Supervisor	🔖 Dr. Meenakshi Rana
Abstract	🔖 In Ph.D. dissertation, my research work was aimed at finding interpretations of 25 mock theta functions in terms of $(n + t)$–color partitions and lattice paths by employing a novel idea of attaching weights to the partitions generated by the unsigned version of mock theta functions. In addition to above, we provided combinatorial interpretations of some generalized q-series.

Research Publications

Journal Articles

1. **M. Rana**, & Sharma, S. (2022). (n+t)-color analogue of gordon's theorem. *Journal of The Ramanujan Mathematical Society*, *37(4)*, 411–417.
   🔗 doi:`http://www.mathjournals.org/jrms/2022-037-004/2022-037-004-007.html`

2. **Sharma, S.**, & Rana, M. (2022). Three-way combinatorial interpretations of Rogers-Ramanujan identities. *Journal of the Indian Mathematical Society*, *89(1-2)*, 167–171. 🔗 doi:`10.18311/jims/2022/29312`

3. Rana, M., & **Sharma, S.** (2021a). Combinatorics of some fifth and sixth order mock theta functions. *Electronic Research Archive*, *29(1)*, 1803–1818. 🔗 doi:`10.3934/era.2020092`

4. Rana, M., & **Sharma, S.** (2021b). N–color compositions and lattice paths of Agarwal-Bressoud. *Indian Journal of Pure and Applied Mathematics*, *52*, 87–95. 🔗 doi:`10.1007/s13226-021-00120-w`

5. Gupta, V., Rana, M., & **Sharma, S.** (2020). On weighted signed color partitions. *Proceedings of Indian Academy of Sciences (Mathematical Sciences)*, *130(10)*. 🔗 doi:`10.1007/s12044-019-0545-1`

6. **Sharma, S.**, & Rana, M. (2020). A simple combinatorial treatment for the q-series interpreted by Agarwal. *Utilitas Mathematica*, *115*, 57–72.
   🔗 doi:`https://utilitasmathematica.com/index.php/Index/article/view/1499`

7   **Sharma, S.**, & Rana, M. (2019a). A new approach in interpreting some mock theta functions. *International Journal of Number Theory*, *15(7)*, 1369–1383.   doi:10.1142/S1793042119500763

8   **Sharma, S.**, & Rana, M. (2019b). Combinatorics of third order mock theta function f(q) and sixth order mock theta functions phi(q), psi(q). *Journal of Ramanujan Society of Mathematics and Mathematical Sciences*, *7(1)*, 31–36.
  doi:https://rsmams.org/journals/articleinfo.php?articleid=376&tag=jrsmams

9   **Sharma, S.**, & Rana, M. (2019c). Interpreting some fifth and sixth order mock theta functions by attaching weights. *Journal of The Ramanujan Mathematical Society*, *34(4)*, 401–410.
  doi:http://www.mathjournals.org/jrms/2019-034-004/2019-034-004-004.html

10   **Sharma, S.**, & Rana, M. (2019d). On mock theta functions and weight-attached Frobenius partitions. *The Ramanujan Journal*, *50(2)*, 289–303.   doi:10.1007/s11139-018-0054-3

11   **Sharma, S.**, & Rana, M. (2018). Combinatorial interpretations of mock theta functions by attaching weights. *Discrete Mathematics*, *341(7)*, 1903–1914.   doi:10.1016/j.disc.2018.03.017

12   **Shruti Sharma**. (2012). (n+t)-color partitions-a survey. *International Journal of Theoretical Applied Sciences*, *4(1)*, 68–70.   doi:https://www.researchtrend.net/ijtas/ijtas_2012/Partitions-A%20Survey-%20Shruti%20Sharma.pdf

Papers Presented in Conferences and Seminars

- **Shruti Sharma**, Combinatorics of third order mock theta function omega(q), Conference on Evolving Trends and Challenges in Multidisciplinary Research, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

- **Shruti Sharma**, Colored partitions and seventh order mock theta functions, International Conference on Evolution in Pure and Applied Mathematics, Akal University, Talwandi Sabo.

- **Sharma, S.**, Interpreting sixth order mock theta functions phi_(q) and psi_(q), Conference on Number Theory, Combinatorics and Special Functions, School of Mathematics, Thapar Institute of Engineering and Technology, Patiala.

- **Sharma, S.**, Combinatorial study of eighth order mock theta functions of Gordon and McIntosh, National Seminar on Emerging Trends and Innovations in Mathematics, PG Department of Mathematics, Mehar Chand Mahajan DAV College for Women, Chandigarh.

- **Sharma, S.** and Rana, M., Three way combinatorial interpretatios of Rogers-Ramanujan Identities, 84th Annual Conference of Indian Mathematical Society-An International Meet organized by School of Mathematics, Shri Mata Vaishno Devi University, Katra, Jammu.

- **Sharma, S.**, Combinatorial Interpretations of Mock Theta Functions V0(q) and V1(q), International Conference on "Special functions and Applications (ICSFA-2017)" organized by Department of Mathematics, Govt. College of Engineering and Technology, Bikaner, Rajasthan.

- **Sharma, S.** and Taneja, D., Decoding schemes for linear error-correcting codes, National Conference on Recent Advances in Applied Mathematics held at ITM University, Gurgaon.

Workshops and Short Term Courses

- Seven days **Faculty Development Programme** titled Women in Indian Society: Navigating Challenges and Oppurtunities at Women's Studies Centre, Punjabi University, Patiala.

- UGC sponsored **Refresher Course** at Human Resource Developement Centre, Punjabi University, Patiala.

- One week **Workshop** on MOOCs, e-content development and Open Educational Resources at Human Resource Developement Centre, Punjabi University, Patiala.

Workshops and Short Term Courses (continued)

- **Short Term Course** on "Engineering Today-2016" held at Yadawindra College of Engg., Talwandi Sabo.
- Two weeks **Faculty Development Programme** conducted by NITCON at Yadawindra College of Engineering, Talwandi Sabo.
- UGC sponsored **Refresher Course** at Academic Staff College, Panjab University, Chandigarh.
- UGC sponsored **Orientation Programme** at Academic Staff College, Panjab University, Chandigarh.

Skills and Interests

Languages	Strong reading, writing and speaking competencies for English, Hindi and Punjabi.
Computer Skills	Proficient in writing Latex documents.
Teaching Interest	Pure Mathematics especially Number Theory.
General Interests	Music, gardening and reading political writings.

Miscellaneous Experience

Competitive Exams

2005 — **UGC-NET (CSIR)**, Mathematical Sciences.

Membership of Societies

- **Life Member of Indian Mathematical Society**. Membership No. L/2021/19.