



Dr. Rachna Rani

CONTACT INFORMATION

Professor (Assistant)
Department of Mathematics
University College, Ghanaur-140 702, Patiala, India
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PERSONAL DETAILS

- Father's Name: Sh. Satpal
- Mother's Name: Smt. Gita Rani
- Spouse's Name: Dr. Rakesh Kumar
- Nationality: Indian

RESEARCH INTERESTS

- Geometry of null submanifolds and hypersurfaces of semi-Riemannian manifolds.
- Study of submersions and Riemannian maps

EDUCATION

- **M.Sc.** (Mathematics) from Punjabi University, Patiala, India, in April 2006.
- **B. Ed.** from D.A.V. College of Education, Abohar, India, in April 2004.
- **Ph.D.** degree under the supervision of Dr. R. K. Nagaich, Department of Mathematics, Punjabi University, Patiala with title "**Geometry of indefinite manifolds and their related structures**", in November 2010.

AWARDS

- **Young Geometer Award** by The Tensor Society, India in an **International Conference on Differential Geometry and Relativity**, organized by Department of Mathematics, Deen Dyal Upadhyaya Gorakhpur University, Gorakhpur, during 09–11 November, 2013.

TEACHING EXPERIENCE

- Working as an Assistant Professor in University College, Ghanaur, from 5th August, 2016 to till date.
- Worked as an Assistant Professor in University College, Moonak, from 28th July, 2011 to 4th August, 2016.

REFERENCES FOR RECOMMENDATION

- **Prof. Dr. Zafar Ahsan**
Department of Mathematics
Aligarh Muslim University, Aligarh, India
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Contact No. +91- 98973-99337

- [Prof. Uday Chand De](#)
Department of Pure Mathematics
University of Calcutta, Kolkata, India
Email: uc_de@yahoo.com
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- [Prof. Sudhir Kumar Srivastava](#)
Department of Mathematics and Statistics, Deen Dayal Upadhyaya University,
Gorakhpur. India
Email: sudhir.mathstat@ddugu.ac.in; sudhirpr66@rediffmail.com
Contact No. +91- 98895-05305; +91-94153-03852

MEMBERSHIP OF RESEARCH BODIES

- [Life member](#) of International Association of Mathematical Physics, Denmark. Membership No. 1853.
- [Life member](#) of The Tensor Society, India, Membership No. 33.
- [Life member](#) of International Association of Engineers, Hon Kong, Membership No. 113583.

ADMINISTRATIVE AND ACADEMIC RESPONSIBILITIES

- Member of [Undergraduate Board of Studies](#), Department of Mathematics, Mata Gujri College, Sri Fathegarh Sahib for the session 2018–19 and 2019–2020.

INVITED TALKS

1. Delivered an invited talk on *Study of Conformal Slant Submersions from Nearly Kaehler Manifolds*, in 28th **International Conference of International Academy of Physical Sciences on Innovations in Computational and Physical Sciences for Sustainable Development**, organized by Vijayanagara Sri Krishnadevaraya University, Ballari, Karnataka, during 21–23 December, 2022.
2. Delivered an expert lecture on *First and Higher Order Ordinary Differential Equations*, in **Swami Vivekanand Institute of Engineering and Technology**, Banur, Punjab, on 10th February, 2020.

REFEREED JOURNAL PUBLICATIONS

1. Reetu Maini, Garima Gupta, Rakesh Kumar, Rashmi Sachdeva, Rachna Rani and S. S. Bhatia, Study of conformal Riemannian maps whose total manifold admits a Yamabe soliton, *Int. J. Geom. Methods Mod. Phys.*, **20** (11) (2023), 1–18. ([SCI & SCOPUS Indexed](#))
2. Rupali Kaushal, Rakesh Kumar and Rachna Rani, Harmonicity of slant conformal Riemannian maps, *Mathematical Notes*, **113**(2) (2023), 243–254. ([SCI & SCOPUS Indexed](#))
3. Adara Monica Blaga, Rakesh Kumar and Rachna Rani, On the geometry of complex metallic Norden manifolds, *Bull. Korean Math. Soc.*, **59**(5) (2022), 1069–1091. ([SCI & SCOPUS Indexed](#))

4. Garima Gupta, Rashmi Sachdeva, Rakesh Kumar and Rachna Rani, On conformal Riemannian maps whose total manifold admits a Ricci soliton, *Journal of Geometry and Physics*, **178** (2022), Article Id. 104539, 1–19. ([SCI & SCOPUS Indexed](#))
5. Varun Jain, Rachna Rani and Rakesh Kumar, On GCR –lightlike submanifolds of indefinite Kaehler manifolds, *J. Geom. Symmetry Phys.*, **63**(1) (2022), 21–37. ([SCOPUS Indexed](#))
6. Garima Gupta, Rakesh Kumar, Rachna Rani and Rashmi Sachdeva, Harmonicity of almost Norden submersions between almost Norden manifolds, *Bull. Korean Math. Soc.*, **59**(2) (2022), 375–395. ([SCI & SCOPUS Indexed](#))
7. Rakesh Kumar, Garima Gupta and Rachna Rani, Adapted connections on Kaehler-Norden Golden manifolds and harmonicity, *Int. J. Geom. Methods Mod. Phys.*, **17**(2) (2020), 1–17. ([SCI & SCOPUS Indexed](#)). ([MR4072993](#))
8. Rashmi Sachdeva, Rachna Rani, Rakesh Kumar and S. S. Bhatia, Study of totally contact umbilical hemi-slant lightlike submanifolds of indefinite Sasakian manifolds, *Balkan J. Geom. Appl.*, **22** (1) (2017), 70–80. ([SCI & SCOPUS Indexed](#)). ([MR3678011](#))
9. Varun Jain, Rachna Rani, Rakesh Kumar and R. K. Nagaich, Some characterization theorems on holomorphic sectional curvature of GCR light-like submanifolds, *Int. J. Geom. Methods Mod. Phys.*, **14** (3), (2017), 1–18. ([SCI & SCOPUS Indexed](#)). ([MR3608891](#))
10. Rachna Rani, Rakesh Kumar and R. K. Nagaich, The axioms of spheres in lightlike geometry of submanifolds, *Proc. Indian Acad. Sci. (Math. Sci)*, **126** (4) (2016), 613–621. ([SCI & SCOPUS Indexed](#)). ([MR3568253](#))
11. Rachna Rani, Sangeet Kumar, Rakesh Kumar and R. K. Nagaich, Characterizations of null holomorphic sectional curvature of GCR-lightlike submanifold of an indefinite nearly Kaehler manifold, *Anal. Theory Appl.*, **32** (2) (2016), 122–134. ([MR3529324](#))
12. Rakesh Kumar, Rachna Rani, Manish Gogna and R. K. Nagaich, Characterization of GCR-lightlike warped product of indefinite Sasakian manifolds, *Arab J. Math. Sci.*, **20** (4) (2014), 191–204. ([MR3227418](#))
13. Rachna Rani, Rakesh Kumar and R. K. Nagaich, Totally contact umbilical lightlike hypersurfaces of indefinite S-manifolds, *Journal of Mathematics*, Volume 2013, Article ID 395787, 1–7. ([SCI & SCOPUS Indexed](#)). ([MR3097212](#))
14. Manish Gogna, Rachna Rani, Rakesh Kumar and R. K. Nagaich, Totally umbilical lightlike hypersurfaces of semi-Riemannian manifolds, *J. Tensor Soc.*, **6** (2) (2012), 145–156. ([MR3076205](#))
15. Rachna Rani and R. K. Nagaich, On Lightlike Submersions, *J. Tensor Soc.*, **6** (2) (2012), 137–144. ([MR3076205](#))

16. Rachna Rani, Rakesh Kumar and R. K. Nagaich, Characterization of CR lightlike warped product of indefinite Kaehler manifolds, *ISRN Mathematical Physics*, Volume 2012, Article ID 957176, 1–14.
17. Rachna Rani, Rakesh Kumar and R. K. Nagaich, Indefinite nearly Kahler manifolds of constant type, *Eurasian Math. J.*, **2** (1) (2011), 120–127. [\(MR2910825\)](#)
18. Rakesh Kumar, Rachna Rani and R. K. Nagaich, On contact CR-lightlike submanifolds of indefinite Sasakian manifolds, *Vietnam J. Math.*, **38** (4) (2010), 485–499. [\(SCOPUS Indexed\)](#). [\(MR2798142\)](#)
19. Rakesh Kumar, Rachna Rani and R. K. Nagaich, Some properties of lightlike submanifolds of semi-Riemannian manifolds, *Demonstratio Math.*, **43** (3) (2010), 691–701. [\(ESCI & SCOPUS Indexed\)](#). [\(MR2683366\)](#)
20. Rakesh Kumar, Rachna Rani and R. K. Nagaich, The axiom of spheres in semi-Riemannian geometry with lightlike submanifolds, *Kodai Math. J.*, **32** (2009), 52–58. [\(SCI & SCOPUS Indexed\)](#). [\(MR2518553\)](#)
21. Rachna Rani, Rakesh Kumar and R. K. Nagaich, Constancy of ϕ sectional curvatures of (ϵ) -Sasakian manifold, *Lobachevskii J. Math.*, **30** (1) (2009), 76–80. [\(SCOPUS Indexed\)](#). [\(MR2506057\)](#)
22. Rakesh Kumar, Rachna Rani and R. K. Nagaich, Constancy of ϕ -holomorphic sectional curvature in indefinite Sasakian manifolds, *Int. Elec. J. Geom.*, **2** (1) (2009), 34–40. [\(MR2501384\)](#)
23. Jasleen Kaur, Rachna Rani, R. K. Nagaich, On a Characteristic property of indefinite Sasakian manifolds with constant ϕ -holomorphic sectional curvature, *Bull. Cal. Math. Soc.*, **100** (4), 451–454 (2008).
24. Rakesh Kumar, Rachna Rani and R. K. Nagaich, On sectional curvatures of (ϵ) -Sasakian manifolds, *Int. J. Math. Math. Sci.*, Volume (2007), Article ID 93562, 1–8. [\(SCOPUS Indexed\)](#). [\(MR2365734\)](#)

**BOOK/CHAPTER
PUBLICATIONS**

1. Published a Book Chapter entitled **Slant Lightlike Submanifolds of Indefinite Contact Manifolds** in the Book entitled “Contact Geometry of Slant Submanifolds”. Editors: B.Y. Chen, M.H. Shahid and F. Al-Solamy. Springer Nature Singapore Pvt. Ltd (June, 2022) with ISBN 978-981-16-0016-6. https://doi.org/10.1007/978-981-16-0017-3_12.
2. Published a Book Chapter entitled **Slant Lightlike Submanifolds of Indefinite Kaehler Manifolds and their Warped Product Manifolds** in the Book entitled “Complex Geometry of Slant Submanifolds”. Editors: B.Y. Chen, M.H. Shahid and F. Al-Solamy. Springer Nature Singapore Pvt. Ltd (May, 2022) with ISBN 978-981-16-0020-3. https://doi.org/10.1007/978-981-16-0021-0_12.

3. Published a Book Chapter entitled **Warped Product Slant Lightlike Submanifolds on Indefinite Kaehler Manifolds** with page no. 33–44, in “Differential Geometry, Algebra and Analysis”, Springer Proceedings in Mathematics & Statistics, Volume 327, Springer Nature, Singapore, (2020). ISBN: 978-981-15-5454-4. ([MR4151046](#))

PAPER
PRESENTATIONS

1. Presented a paper entitled *On the Geometry of Complex Metallic Norden Manifolds*, in Online **International Conference on Riemannian Geometry and Applications (RIGA 2023)**, jointly organized by Technical University of Civil Engineering Bucharest, Romania and University of Bucharest, **Romania** during 22–24 September, 2023.
2. Presented a paper entitled *On the Geometry of Complex Metallic Norden Manifolds*, in **International Conference on Differential Geometry and Relativity**, organized by Soban Singh Jeena University, Almora in association with the Tensor Society, India, during 18–20 May, 2023.
3. Presented a paper entitled *Geometry of real half lightlike submanifolds of indefinite Kaehler manifolds*, in **Two Days International Conference on Differential Geometry and its Applications**, organized by Department of PG Studies and Research in Mathematics, Kuvempu University, Shivamogga, Karnataka, during 04–05 March, 2022.
4. Presented a paper entitled *Canonical screen distribution of lightlike submanifolds* in **2nd International Conference on Functional Materials and Simulation Techniques**, organized by University Institute of Sciences, Chandigarh University, Gharunan, Mohali, during 10–11 January, 2022.
5. Presented a paper entitled *Geometry of Kaehler-Norden-Golden Manifolds and Harmonicity* in **27th International Conference of International Academy of Physical Sciences on Recent Advances in Differential Geometry and Topology**, organized by Department of Mathematics and Statistics, Central University of Punjab, Bathinda, during 26–28 October, 2021.
6. Presented a paper entitled *Pointwise Slant Lightlike Submanifolds of Indefinite Kaehler Manifolds* in **26th International Conference of International Academy of Physical Sciences on Advances in Topology and Differential Geometry**, organized by the Department of Mathematics, Guru Ghasidas University, Bilaspur during 18–20 December, 2020.
7. Presented a paper entitled *Geometry of Lightlike Submanifolds of Indefinite Kaehler Manifolds* in **International Conference on Gravitation, Cosmology and Mathematical Physics**, organized by GLA University, Mathura, in collaboration with the Tensor Society of India, during 4–7 April, 2019.
8. Presented a paper in one day **National Seminar on Usage and Prospects of Mathematics**, organized by Multani Mal Modi College, Patiala on 7th March, 2019.

9. Presented a paper entitled *On Existence of Unique Screen Distribution of Lightlike Submanifolds of a semi-Riemannian manifold* in **23rd International Conference of International Academy of Physical Sciences on Advances in Physical Sciences to Achieve Sustainable Development Goals**, organized by Nepal Academy of Science and Technology, Kathmandu, [Nepal](#) during 16–18 November, 2018.
10. Presented a paper entitled *On the Geometry of Screen Conformal Totally Umbilical Lightlike Submanifolds* in **National Conference on Recent Developments in Mathematical Modelling & Fuzziology**, organized by Department of Mathematics, Chandigarh University, Mohali, Punjab, during 27–28 March, 2018.
11. Presented a paper entitled *Axioms of Spheres in Lightlike Geometry of Submanifolds* in **National Conference on Differential Geometry and General Relativity** organized Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujrat, during 28–29 November, 2017.
12. Presented a paper in **National Seminar on Higher Education for Development & Role of Teachers**, organized by General Shivdev Singh Diwan Gurbachan Singh Khalsa College, Patiala in collaboration with the Bhartiya Shikhan Mandal, on 16 July, 2017.
13. Presented a paper entitled *Holomorphic Sectional Curvature of GCR Lightlike Submanifolds of Indefinite nearly Kaehler Manifolds* in **International Conference on Differential Geo-metry, Algebra and Analysis** organized by Department of Mathematics, Jamia Milia Islamia, New Delhi, during 15–17 November, 2016.
14. Presented a paper entitled *Non Existence of Totally Contact Umbilical GCR-Lightlike Submanifolds of Indefinite Kenmotsu Manifolds* in **National Conference on Recent Advancements in Science, Commerce and Technology**, organized by Mata Sahib Kaur Girls College, Talwandi Sabo, Bathinda, during 5–6 April, 2016.
15. Presented a paper in **National Seminar on Latest Trends in Algebra and Analysis**, organized by Guru Nanak Khalsa College, Karnal, on 19th March, 2016.
16. Presented a paper entitled *Non Existence of Totally Contact Umbilical GCR-Lightlike Submanifolds of Indefinite Kenmotsu Manifolds* in **National Conference on Recent Trends in Envi-ronment, Science and Technology**, organized by University School of Sciences, Rayat-Bhara University, Mohali, on 11th March, 2016.
17. Presented a paper entitled *Totally Contact Umbilical GCR Lightlike Submanifolds* in **19th Punjab Science Congress**, organized by SUS Group of Institutions, Tangori, Punjab, during 7–9 February, 2016.
18. Presented a paper entitled *Radical Transversal Lightlike Submanifolds of Indefinte Kaehler Manifolds* in **International Conference on Mathematics for Brain Studies**, organized by School of Sciences, Center for

- Research Studies, Noida International University, Greater Noida, during 1–3 February, 2016.
19. Presented a paper entitled *Characterization Theorems for Sectional Curvature of GCR Lightlike Submanifolds* in **National Conference on Recent Development in Mathematical Modelling and Fuzziology**, organized by Department of Applied Sciences, Chandigarh University, Kharar, during 28–29 October, 2015.
 20. Presented a paper entitled *GCR Lightlike Submanifold of an Indefinite Nearly Kaehler Manifold* in the **National Conference on Recent Trends in Mathematical Sciences**, organized by School of Mathematics, Shri Mata Vaishno Devi University, Katra, Jammu & Kashmir, during 8–9 October, 2015.
 21. Presented a paper entitled *Characterization of Holomorphic Sectional Curvature of GCR Lightlike Submanifold of an Indefinite Nearly Kaehler Manifold* in **International Conference on Recent Trends in Mathematics**, organized by the Department of Mathematics, University of Allahabad, Allahabad during July 10–12, 2015.
 22. Presented a paper in **International Conference on Emerging Areas of Mathematics for Science & Technology**, organized by Department of Mathematics, Punjabi University, Patiala during 30th January to 1st February, 2015.
 23. Presented a paper entitled *Radical Transversal Lightlike Submanifold* in the **International Conference on Algebra, Geometry, Analysis and Their Applications**, organized by Department of Mathematics, Jamia Milia Islamia, New Delhi, during 27–29 November, 2014.
 24. Presented a paper entitled *Generic Lightlike Submanifolds of Indefinite Kaehler Manifolds* in **Conference on Exploring Basic and Applied Sciences**, organized by Lovely Professional University, Jalandhar, during 14–15 November, 2014.
 25. Presented a paper entitled *Radical Transversal Lightlike Submanifolds of Indefinite Kaehler Manifolds* in the **International Conference on Differential Geometry and its Applications**, organized by the Department of Mathematics, Jadavpur University, Kolkata in collaboration with The Tensor Society, during 16–18 October, 2014.
 26. Presented a paper entitled *Generic Lightlike submanifolds of Indefinite Kaehler Manifolds* in the **International Conference on Mathematical Modeling and Statistical Analysis**, organized by PG Department of Mathematics, JC DAV College, Dasuya, Hoshiarpur, on 30th September, 2014.
 27. Presented a paper in **International Conference on Advances in Pure and Applied Mathematics**, organized by Department of Mathematics, Government Degree College, Haripur (Manali), Himachal Pradesh, during 7–9 March, 2014.

28. Presented a paper entitled *Generic Lightlike submanifolds of Indefinite Kaehler Manifolds* in **International Conference on Differential Geometry and Relativity**, organized by Department of Mathematics, Deen Dyal Upadhyaya Gorakhpur University, Gorakhpur in collaboration with The Tensor Society, during 09–11 November, 2013.
29. Presented a paper entitled *Every Totally Umbilical GCR Lightlike Submanifold of an Indefinite Nearly Kaehler Manifold is Totally Geodesic* in the **International Conference on Information and Mathematical Sciences**, organized by the Department of Mathematics, Baba Farid College of Engineering and Technology, Bathinda, Punjab, during 24–26 October, 2013.
30. Presented a paper entitled *Radical Transversal lightlike submanifolds of indefinite Kaehler manifolds* in the **International Conference in Mathematical Sciences**, organized by Department of Mathematics, Government Degree College, Haripur (Manali), Himachal Pradesh, during 8–9 March, 2013.
31. Presented a paper in **3rd International Conference on Management & Technology**, organized by Continental Group of Institutes, Jalvehra, Distt Fathegarh Sahib on 3rd November, 2012.
32. Presented a paper in **7th National Conference on Innovative Developments in Engineering Applications**, organized by the Bhai Gurdas Institute of Engineering and Technology, Sangrur during 13–14 April, 2012.
33. Presented a paper in **15th Punjab Science Congress**, organized by Guru Nanak Dev University, Amritsar during 7–9 February, 2012.
34. Presented a paper entitled *On Lightlike Submersions* in the **National Conference on Recent trends in Mathematics and Its Applications**, organized by the Department of Mathematics, Sant Long-owal Institute of Engineering and Technology, Longowal, Distt Sangrur, during 16–17 December, 2011.
35. Presented a paper in the **2nd International Conference on Recent Advancement in Technology and Management**, organized by Continental Group of Institutes, Jalvehra, Fathegarh Sahib on 5th November, 2011.
36. Presented a paper in **13th International Conference of International Academy of Physical Sciences, on Emerging Interfaces of Physical Sciences and Technology**, organized by University of Petroleum and Energy Studies, Dehradun, Uttarakhand during 14–16 June, 2011.
37. Presented a paper in **14th Punjab Science Congress, Theme: Role of Scientific Innovations and Knowledge in Economic Development**, organized by the Sant Longowal Institute of Engineering and Technology, Longowal during 7–9 February, 2011.

38. Presented a paper in **Recent Advances in Chemical and Environmental Sciences-2009**, organized by Multani Mal Modi College during 16–17 January, 2009.
39. Presented a paper in **3rd National Conference on Innovative Developments in Engineering Applications**, organized by the Bhai Gurdas Institute of Engineering and Technology, Sangrur, during 14–15 March, 2008.

CONFERENCE/
WORKSHOPS
ATTENDED

1. Attended **National Workshop on Ancient India Mathematics**, organized by Department of Mathematics and Statistics, Central University of Punjab, Bathinda, during 14–16 March, 2022.
2. Attended **International Webinar on Applications of Differential Geometry**, organized by Department of Mathematics and Humanities, M.M. (Deemed to be University), Mullana, India, on February 10, 2022.
3. Attended **Refresher Course in Mathematics**, organized by Department of Mathematics, Ramanujan College, New Delhi, during 31 August–14 September, 2021.
4. Attended **NASI-TMC Summer School on Differential Geometry**, organized by Department of Mathematics and Statistics, Central University of Punjab, Bathinda, during 05–24 July, 2021.
5. Attended Lecture on *Research in Higher Education in Perspective of NPE-2020*, organized by Centre for E-learning and Teaching Excellence, Punjabi University, Patiala, on 29th May, 2021.
6. Attended **International Workshop on Geometry of Continued Fractions: Ramanujan and his Successors**, organized by Srinivasa Ramanujan Department of Mathematics, Center for Vedic Mathematical Studies, Central University of Himachal Pradesh, 14–15 September, 2020.
7. Attended **Three Days Live Online Workshop on Mathematica for Beginners (A Technical Computing System)**, organized by Department of Applied sciences, Chitkara University, Punjab, during 17–19, August, 2020.
8. Attended **One Day International Webinar on Post COVID Challenges Before Indian Education System**, organized by Multani Mal Modi College, Patiala on 29th May, 2020.
9. Attended **One Day Online Workshop on Book & Article Publishing and Springerlink Platform Demonstration**, organized School of Education, Guru Nanak Dev University, Amritsar, on 22nd April, 2020.
10. Attended **Three Days National Workshop on L^AT_EX and Technical Writing**, organized by Department of Basic and Applied Sciences, Punjabi University, Patiala, during 23–25 November, 2018.

11. Attended **Seven Days National Workshop on Financial, Legal and Social Awareness Among Teachers**, organized by Women's Studies Centre, Punjabi University, Patiala, during 9–15 January, 2018.
12. Attended UGC sponsored **Refresher Course on The Emerging Issues in Information Technology-Mathematics**, organized by Academic Staff College, Punjabi University, Patiala during 10–30 May, 2017.
13. Attended a **Regional Workshop on Indian Women and Mathematics: Research and Career Opportunities**, organized by the Department of Mathematics, Punjabi University, Patiala, during 6–7 February, 2017.
14. Attended ICCR Sponsored One Week **Research Methodology Workshop on Simulation of a Research Problem and Deriving Conclusions**, organized by S.G.G.S. Khalsa College, Mahilpur (Hoshiarpur), Punjab, during 26 December, 2016 to 2 January, 2017.
15. Attended UGC Sponsored **Refresher Course in Mathematics**, organized by Academic Staff College, Panjab University, Chandigarh during 18th March, 2015 to 7th April, 2015.
16. Attended **Seven Days N.S.S. Camp on Health, Public Sanitation and Personal Hygiene**, organized by University College, Moonak during 13–19 February, 2014.
17. Attended a **Three Days National Workshop on Latex**, organized by the School of Applied Sciences, Chitkara University, Rajpura, Punjab, during 8–10 July, 2013.
18. Attended **Seven Days N.S.S. Camp on Health, Public Sanitation and Personal Hygiene**, organized by University College, Moonak during 15–21 February, 2013.
19. Attended **One Day Technical Workshop on Smart Technologies in Education**, organized by the Academic Staff College, Punjabi University, Patiala on January 15, 2013.
20. Attended **Three Days Training Programme on Changing Dimensions of Human Rights in India**, organized by RGNUL Enabling Unit, Rajiv Gandhi National University of Law, Patiala, in collaboration with National Human Rights Commission, New Delhi, during 1–3 September, 2012.
21. Attended UGC Sponsored **12th Orientation Programme**, organized by UGC Academic Staff College, Punjabi University, Patiala during 3–30 May, 2012.
22. Attended a **Workshop on National e-Governance Plan**, organized by University Computer centre, Punjabi University, Patiala in collaboration with the Department of Information Technology and the Ministry of Communications & Information Technology, Government of India on 22 December, 2011.

23. Attended UGC sponsored a **Workshop on Emerging Technologies in Nano-Sciences** at Department of Physics, Punjabi University, Patiala, on 20th February, 2008.

Dr. Rachna Rani