

Dr. Gauree Shanker

Associate Professor

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Education

- Ph. D, 2005, V. B. S. Purvanchal University, Jaunpur, Uttar Pradesh, India.
- M. Sc., 2000, D. D. U. Gorakhpur University, Gorakhpur, Uttar Pradesh, India.
- B. Sc., 1998, D. D. U. Gorakhpur University, Gorakhpur, Uttar Pradesh, India.

Work Experience (10 years and 04 months)

- Associate Professor, Centre for Mathematics and Statistics, School of Basic and Applied Sciences, Central University of Punjab, Bathinda from December 28, 2015 to till date.
- Associate Professor in Mathematics at Banasthali University, Rajasthan from August 01, 2013 to December 24, 2015.
- Assistant Professor in Mathematics at Banasthali University, Rajasthan from September 08, 2008 to July 31, 2013.
- Research Associate in Mathematics at Banasthali University, Rajasthan from August 16, 2007 to September 07, 2008.
- Lecturer in Mathematics at V. B. S. Purvanchal University, Jaunpur, Uttar Pradesh, from July 17, 2006 to August 06, 2007.
- Guest Lecturer in Mathematics at V. B. S. Purvanchal University, Jaunpur, Uttar Pradesh, from November 08, 2005 to June 10, 2006.

Research Interests:

- Differential Geometry
- Riemann-Finsler geometry
- General Topology

Title of the Thesis

- Investigations on Differential Geometry of Special Finsler and Lagrange Spaces

Courses Taught:

Post Graduate level:

- General Topology
- Differential geometry
- Differentiable Manifolds
- Real Analysis
- Measure Theory
- Tensors Analysis
- Riemann-Finsler Geometry

Under Graduate level:

- Calculus
- Analytical solid geometry
- Abstract algebra
- Linear algebra
- Complex analysis
- Real analysis
- Numerical Analysis
- Engineering Mathematics
- Vector and Tensor Analysis
- Operations Research
- Differential equations.

Projects:

Instructional School for Lecturers on Differential Geometry during December 08-20, 2014 supported by the National Centre for Mathematics at Banasthali Vidyapith, Rajasthan.

Awards /honors/ Academic distinction

- Awarded summer research fellowship by INSA during May-June 2013 at IISER Mohali, Chandigarh.
- Achieved third position in M. A./M. Sc Examination 2000 of DDU Gorakhpur University, Gorakhpur, (U. P.).
- Got U. P. State scholarship during 1992-94.

Member/Life member of Learned Bodies

- Member, American Mathematical Society
- Member, Tensor Society, Japan. (Membership code: G-22).
- Life member, Tensor Society, India.(Membership code: LS-43).
- Life member, Indian Mathematical Society. (Membership code: S-10-330).
- Life member, Ramanujan Mathematical Society (1002).
- Life member, Indian Society of Mathematics and Mathematical Sciences. (Membership code: LM-327).

Reviewing

- Mathematical Reviews, American Mathematical Society (MR-94375).
- Zentralblatt, Springer, Germany (zbMath-14713).
- Oxford University Press
- World Scientific Press.

Referring

- International Journal of Geometric Methods in Modern Physics, (World Scientific).
- Balkan Journal of geometry and Its Applications, Romania.
- Differential Geometry-Dynamical Systems, Romania.
- Konuralp Journal of Mathematics (KJM), Iran.
- Journal of Nature Science and Sustainable Technology (JNSST), USA.
- Mathematical journal of Mijoram University.

Reviews Published (21)

Books:

- Srimanta Pal and Subodh C. Bhutia, Engineering Mathematics, Oxford University Press, 2013.

Mathematical Reviews:

1. M. G. Yuan and X. Y. Cheng, On conformally flat (α, β) - metrics with special curvature properties, Acta Mathematica Sinica, English series, Vol. 31 (5) (2015), 879-892.
2. Nocoleta Aldea and Gheorghe Munteanu, Geometry of product complex Cartan manifolds, An. St. Univ. Ovidius Constanta, Vol. 23(1),(2015), 25-36.
3. H. G. Nagaraja, On Kropina metrics, Afr. Mat. Vol. 25 (2014), 519-527.
4. Chen Guangzu and Cheng Xinyue, On an Important Non-Riemannian Quantity in Finsler Geometry, Results. Math. Vol. 65 (2014), 491--499.
5. Qiaoling Xia, On Kropina metrics of scalar flag curvature, Differential Geometry and its Applications, Vol. 31 (2013), 393--404.
6. R. Yoshikawa and K. Okubo, On a Finsler space with a Special Quartic metric, Tensor, N. S. Vol. 74 (2013), 82-100.

Zentralblatt Math:

1. Peyghan, E.; Tayebi, A., Finsler manifolds with a special class of g -natural metrics J. Contemp. Math. Anal., Armen. Acad. Sci. 49, No. 6, 260-269 (2014) and Izv. Nats. Akad. Nauk Armen., Mat. 49, No. 6, 109--121 (2014).) (Under review)
2. Matveev Vladimir S.; Troyanov, Marc, Completeness and incompleteness of the Binet-Legendre metric, Eur. J. Math. 1, No. 3, Article ID 46, 483-502 (2015). (Under review)

3. Li, Jintang, A classification theorem for hypersurfaces of Minkowski space. *Ann. Sc. Norm. Super. Pisa, Cl. Sci. (5)* 14, No. 1 (2015), 221-231.
4. S. V. Sabau and K. Shiohama, Topology of complete Finsler manifolds admitting convex functions, *Pacific Journal of Mathematics* Vol. 276, No. 2 (2015), 459-481.
5. V. S. Matveev, There exist no locally symmetric Finsler spaces of positive or negative flag curvature, *C. R. Acad. Sci. Paris, Ser.I* 353 (2015), 81-83.
6. A. A. Borisenko, On the cylindricity of submanifolds containing a line in Minkowski space. (English. Russian Original) *Sb. Math.* 205, No. 7, 936-952 (2014); translation from *Mat. Sb.* 205, No. 7 (2014), 25-42.
7. Mehdi Rafie-Rad, Weakly conformal Finsler Geometry, *Math. Nachr.* Vol. 287, No. 14-15, (2014), 1745-1755.
8. Yin, Song-Ting, He, Qun, The first eigen value of Finsler p -Laplacian. *Differ. Geom. Appl.* Vol. 35 (2014), 30-49.
9. Wei Zhao, Erratum to the paper "A Lower Bound for the Length of Closed Geodesics on a Finsler Manifold". *Can. Math. Bull.* Vol. 57 (1) (2014), 209.
10. Wei Zhao, A Lower Bound for the Length of Closed Geodesics on a Finsler Manifold, *Canad. Math. Bull.* Vol. 57 (1) (2014), 194-208.
11. Huang, Libing; Mo, Xiaohuan, On some dually flat Finsler metrics with orthogonal invariance. *Nonlinear Anal., Theory Methods Appl., Ser. A, Theory Methods* Vol. 108 (2014), 214-222.
12. H. Feng and M. Li, Adiabatic limit and connections in Finsler geometry, *Communications in Analysis and Geometry*, Vol. 21, No.3 (2013), 607-624.
13. E. Peyghan, A. Tayebi, and L. Nourmohammadi Far, On Twisted Products Finsler Manifolds, Hindawi Publishing Corporation *ISRN Geometry* Vol. 2013, Article ID 732432, 12 pages.
14. Zoltan Muzsnay, Peter T. Nagy, Witt algebra and the curvature of the Heisenberg group, *Communications in Mathematics* Vol. 20 (2012), 33-40.

Books Published (01)

- Differential Geometry of Finsler and Lagrange Spaces, LAP LAMBERT Academic Publishing Germany, 2012. ISBN: 978-3-659-27863-1.

Overview of Research work

The study of Differential geometry makes us aware of the potential applications of exploring non-linear aspects and non-trivial symmetries arising in various models of gravity, classical and quantum field theory and geometric mechanics. The basic idea of Finsler space came from the groundbreaking "habilitation" lecture of Riemann: *Über die Hypothesen, welche der Geometrie zugrunde liegen* (On the Hypothesis, which lie at the Foundations of Geometry). During the last thirty years, Finsler geometry has gone under remarkable developments. Specially, a lot of results from Riemannian manifolds have been extended for Finsler manifolds by the researchers from all over the world. Presently, Finsler geometry has found an abundance of applications in both Physics and its applications. Finsler geometry has its roots in various problems of Differential Equations, Calculus of Variations, Mechanics and Theoretical Physics. Such applications include not only the traditional area of general Relativity, but also the theory of Yang-Mills fields, non-linear sigma models, superstring theory, and other types of non-linear field systems that feature in modern elementary particle theory and quantum gravity and Biology. In Biology, there are a lot of Finsler metrics which are suitable to describe biological models like Protein structure, coral reef ecology, etc.

The applications of Finsler geometry in various fields of science and its pure impact on real life problems motivate researchers to do research in this beautiful area of mathematics. I am particularly interested in Riemann- Finsler geometry. We have worked on several interesting and important topics of Finsler Geometry like Conformal transformation of Finsler spaces, Projective change and Projective flatness of Finsler spaces, Hypersurface of Finsler spaces with (α, β) metric, Finsler-Cartan duality in which we have obtained L-duals of Finsler spaces with (α, β) -metrics, Main scalars of Finsler spaces etc. Currently, we are working on the existence of reversible geodesics in Finsler spaces, locally dual flatness of Finsler spaces, Unicorn problems, Non-holonomic frames in Finsler geometry and some more interesting current topics.

Research Publications

Published (35)

Selected Publications:

1. Gauree Shanker and Deepti Choudhary, On the L-duality of Finsler Spaces with (α, β) -metric- $\frac{(\alpha + \beta)^2}{\alpha}$, *Romanian Computer Science Journal of Mathematics* and, Vol. 5, issue 2 (2015), 195-201.
2. Gauree Shanker and Sruthy Asha Baby, L-dual of a Finsler space with infinite series (α, β) -metric, *Bull. Cal. Math. Soc.* Vol. **107**(4) (2015), 335-354.
3. Gauree Shanker, On the Conformal Change of a Five-dimensional Finsler Space, *Differential Geometry - Dynamical Systems*, Vol. **15** (2013), 79-92.
4. Gauree Shanker and Ravindra Yadav, On the Randers change of Exponential Metric, *Applied Sciences*, Vol. **15** (2013), 94-103.
5. Gauree Shanker and Ravindra Yadav, Weakly Berwald Finsler spaces with first approximate Matsumoto metric, *Tensor, New Series*, Vol. **74**, No.1 (2013), 34-42.
6. Gauree Shanker and Ravindra Yadav, On Some Projectively Flat (α, β) -Metrics, *Gulf Journal of Mathematics*, Vol. **1** (2013), 72-77.
7. Gauree Shanker and Ravindra Yadav, On the hypersurface of a Finsler space with special (α, β) -metric $\alpha + \beta + \frac{\beta^{n+1}}{\alpha^n}$, *Journal of the Indian Mathematical Soc.*, Vol. **80**, Nos. 3-4, (2013), 329-339.
8. Gauree Shanker, G.C. Chaubey and Vinay Pandey, *Hypersurface of a Finsler Space with special (α, β) -metric $\alpha + \frac{\beta^{n+1}}{(\alpha - \beta)^n}$* , *Journal of Tensor Society*, Vol.7 (2013), 39-47.
9. Gauree Shanker and Ravindra Yadav, Two-dimensional Landsberg space with first approximate Matsumoto metric, *Bull. Cal. Math. Soc.*, **105** (1), (2013), 29-36. ISSN: 0008-0659.
10. Gauree Shanker and Proxy Gupta, Projectively flat Finsler space with special metric $\alpha + \beta + \frac{\alpha^2}{\beta} + \frac{\alpha^3}{\beta^2}$, *J. Int. Acad. Phy. Sc.* Vol. **17** No. 4 (2013), 369-376.
11. Gauree Shanker and Deepti Choudhary, Weakly Berwald Finsler spaces with second approximate Matsumoto metric, *Journal of Mathematical Analysis.(In Press)*
12. Gauree Shanker, On a canonical recurrent d-connection of the generalized Lagrange space with the metric $y_{ij}(x) + \frac{1}{c^2} y_i y_j$, *Tensor, New Series*, Vol. **73**, No. 3(2011), 207-214.

13. Gauree Shanker and Ravindra, On the hypersurface of a Finsler space with metric-
 $\alpha + \beta + \frac{\beta^2}{\alpha - \beta}$, *Tensor, New Series*, Vol. **73**, No. 1 (2011), 6-14.
14. Gauree Shanker and Ravindra Yadav, The L-dual of a special Finsler space with metric
 $\alpha + \frac{\beta^2}{\alpha}$, *Tensor, New Series*, Vol. **73**, No. 2 (2011), 137-144.
15. Gauree Shanker and Ravindra Yadav, Finsler Spaces with Third Approximate
 Matsumoto Metric, *Tensor New Series*, Vol. **73**, No. 2 (2011), 118-126.
16. Gauree Shanker, The L-dual of a Generalized m- Kropina Space, *J. T. S.* Vol. **5** (2011),
 15-25.
17. Gauree Shanker, Five-dimensional Finsler space with constant unified main scalars,
Tensor, New Series, Vol. **72**, No. 1(2010), 81-87.
18. Gauree Shanker, On Cartan spaces with generalized (α, β) metric, *J. T. S.* Vol. **4** (2010),
 41-48.
19. B. N. Prasad and Gauree Shanker, Conformal change of four-dimensional Finsler space,
Bull. Cal. Math. Soc., Vol.**102**, No. (5) 2010, 423-432. ISSN: 0008-0659.
20. B. N. Prasad, G. C. Chaubey and G. S. Patel, The four dimensional Finsler space with
 constant unified main scalar, *Bull. Cal. Math. Soc.*, Vol.**99** No.2 (2007), 113-122. ISSN:
 0008-0659.
21. Kiranta Kumari, P. K. Gupta and G. Shanker, An Exact solution of the Diffusion
 Equation with boundary conditions by Pade-Laplace Differential Transform Method,
International Journal of Mathematics And its Applications, Volume **3**, Issue 4 {B (2015),
 1-8. ISSN: 2347-1557.
22. Gauree Shanker and Vijeta Singh, On the L-duality of Higher order Finsler Spaces,
British Journal of Mathematics & Computer Science 14(2): 1-11, 2016.

Communicated (14)

1. Gauree Shanker and Sruthy Asha Baby, On the Riemannian and Ricci Curvature of
 Finsler spaces with a special (α, β) -metric, *Indian Journal of Pure and Applied
 Mathematics*.

2. Gauree Shanker, On the Conditions for a Conformally flat Landsberg Space to be a Berwald Space, *Differential Geometry-Dynamical Systems*.
3. Gauree Shanker and Deepti Choudhary, On the Nonholonomic Frames for Finsler Spaces with (α, β) -metrics, *Journal of Geometry and Physics*.
4. Gauree Shanker and Sruthy Asha Baby, Nonholonomic Frames for Finsler Spaces with metric- $\alpha + \varepsilon\beta + k \frac{\beta^2}{\alpha}$, *Balkan Journal of Geometry and Its Applications*.
5. Gauree Shanker and Sruthy Asha Baby, On the Randers conformal change of a Finsler space with a special (α, β) -metric, *Acta Mathematica Academiae Paedagogicae Nyiregyhaziensis*.
6. Gauree Shanker and Sruthy Asha Baby, On the Kropina- Randers change of m^{th} -root metric, *Indian journal of Pure and Applied Mathematics*.
7. Gauree Shanker and Vijeta Singh, On the Kropina change of a Finsler space with m-th root metric, *Tensor New Series*.
8. Gauree Shanker and R. D. Kushwaha, Finslerian hypersurfaces and Quartic change of Finsler metric, *Journal of Indian Mathematical Society*.
9. Gauree Shanker and S. A. Baby, Projective changes between two Finsler spaces with (α, β) -metrics, *Tensor, New Series*.
10. Gauree Shanker and Sruthy Asha Baby, On the conformal change of a Douglas space of second kind with generalized (α, β) -metric $\alpha + \varepsilon\beta + k \frac{\beta^2}{\alpha}$, *Acta. Univ. Apulensis*.
11. Gauree Shanker and Vijeta Singh, Projective change between infinite series (α, β) -metric and Kropina metric, *Ukrainian journal of Mathematics*.
12. Gauree Shanker and Vijeta Singh, On the Nonholonomic Frames for Finsler spaces with certain (α, β) -metric, *Konuralp Journal of Mathematics*.
13. Gauree Shanker and R. D. Kushwaha, On the Nonholonomic frames for Finsler spaces with Quartic metrics, *Differential Geometry-Dynamical Systems*.
14. Manoj Kumar, Gauree Shanker and R. D. Kushwaha, On the Randers conformal change of a Finsler space with m^{th} -root metric, *Uropean Journal of Mathematics*.

Invited Talks

1. Delivered an invited talk entitled, "On the Nonholonomic Frames in Finsler Geometry" in the International Conference on Emerging Areas of Mathematics for Science and Technology held in the Department of Mathematics Punjabi University, Patiala during January 30-February 1, 2015.
2. Worked as a course associate in the Instructional School for Lecturers on Differential Geometry held at Banasthali Vidyapith during December 8-20, 2014, supported by NCM, A Joint Centre of IIT Bombay and TIFR, Mumbai.
3. Delivered an invited talk on the topic Stop Teaching Calculating, Start Teaching Math in National Workshop on "Thoughts on Mathematics Education" held at T. D. P. G. College Jaunpur (U. P.) during November 02-06, 2014, sponsored by DST Gov. of India.
4. Delivered an invited talk entitled "On the Conditions for a Four dimensional Conformally flat Landsberg space to be a Berwald space" in the symposium on Riemann-Finsler geometry organized in the 29th Annual meeting of Ramanujan Mathematical Society during 23-27 June 2014 at IISER, Pune.
5. Delivered a series of lectures on the Theory of Curves and Surfaces in the National Workshop on Differential Geometry held at Banasthali University, Rajasthan during October 23-27, 2013, sponsored by DST Gov. of India.
6. Delivered an invited talk on Scope and Applications of Multiple integrals on November 19, 2013 at Asian Institute of Technology, Jaipur, Rajasthan.
7. Delivered a lecture on An Introduction to Tensors in the 19th annual conference of Purvanchal academy of sciences held at T. D. P. G College, Jaunpur (U. P) during February 20-21, 2010.

Conferences/seminars attended

1. National Conference on Recent Developments in Special Functions and their Applications at T. D. P. G. College Jaunpur (U. P.) during November 04-06, 2014 and presented a paper entitled, "On the Nonholonomic Frames for Finsler spaces with (α, β) metrics".
2. International Conference on Differential geometry and Relativity at DDU Gorakhpur University, Gorakhpur during November 09-11, 2013 and presented a paper entitled, "Two-dimensional Landsberg space with first approximate Matsumoto metric".

3. 15th National Conference of Society of Statistics, Computers and Applications at Banasthali University, Rajasthan during February 24-26, 2013 and presented a paper entitled, "Geometry of Curves in Space".
4. 2nd National Conference on Computational and Mathematical Sciences "Computatia-II 2012" at VIT Jaipur from Nov. 30 to Dec. 01 2012 and presented a paper entitled, "On the Hypersurface of Second Matsumoto Space".
5. 9th National Conference of ISMAMS on Interdisciplinary Applications of Mathematical and Statistical Techniques at Gorakhpur (U. P.) during February 25-26, 2012 and presented a paper entitled, "The L-dual of a generalized m-Kropina Space".
6. 19th Annual conference of Purvanchal academy of sciences held at T. D. P. G College, Jaunpur (U. P) during February 20-21, 2010 and presented a paper entitled, " Conformal Change of Five-dimensional Finsler space".
7. International Conference on Discrete Mathematics entitled, "Jubilee Conference on Discrete Mathematics" organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during January 11-13, 2009.
8. 2nd National conference of the Tensor society, India held at SRMCEM, Lucknow during July 5-6, 2008 and presented a paper entitled, "Finslerian Hyper surfaces and β -change of Finsler metric".
9. International Conference on Women Education entitled, "Jubilee Conference on Women's Education" organized by Banasthali University, Rajasthan, India from November 11-13, 2008.
10. 14th annual conference of Purvanchal academy of sciences held at Jaunpur (U.P) during February 19-20, 2005 and presented a paper entitled, "A remarkable connection in Finsler space with generalized (α, β) -metric".
11. National conference on emerging areas in Mathematical sciences in first quarter of the century held at Gorakhpur (U.P) during February 11-13, 2005 and presented a paper entitled, "Finslerian Hyper surfaces and Matsumoto change of Finsler metric".

Special Training Programs / Workshops Attended:

1. Instructional school for Lecturers on Geometric Topology held at DST-CIMS, BHU Varanasi during July 07-19, 2014 supported by NBHM.
2. Instructional school for Lecturers on Topology and Geometry held at HRI Allahabad during December 16-28, 2013 supported by NBHM.
3. National Workshop on Differential Geometry held at Banasthali University, Rajasthan during October 23-27, 2013, sponsored by DST Gov. of India.
4. National Workshop on Recent Trends in Biomathematics & Statistics held at Banasthali University, Rajasthan during Nov. 02-05, 2012, sponsored by DST Gov. of India.
5. Instructional school for Lecturers in Differential Geometry held at Kumaun University Almora during May 21 to June 09, 2012 supported by NBHM.
6. National Workshop on Cryptography and Number Theory held at Banasthali University, Rajasthan during May 03-06, 2012, sponsored by DST Gov. of India.
7. Discussion Meeting on Analysis and Geometry held at HRI Allahabad during March 12-16, 2012, sponsored by NBHM.
8. Workshop on Lie groups and Lie Algebra, organized by HRI, Allahabad during August 22-27, 2011, sponsored by NBHM.
9. National Workshop on Inventory Modeling, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during March 04-07, 2011.
10. National Workshop on Block Designs and Their Applications, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during February 05-08, 2011.
11. Workshop on Latex and other open source Software, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during March 25-27, 2010.
12. National Workshop on Discrete Mathematics, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during May 01-05, 2010.
13. Mini MTTTS Programm on Number Theory and Algebra, organized by Banasthali University, Banasthali Rajasthan during December 18-24, 2010 supported by NBHM.
14. Advanced Training In Algebra and Number Theory, organized by Panjab University, Chandigarh during December 15-31, 2009, sponsored by NBHM.
15. Pre-Conference Workshop on Discrete Mathematics, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during January 06-10, 2009.
16. Training Programm on Optimization Techniques, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during December 24-29, 2008.

Training programs / Workshops/Conferences Organized

1. Convener, Instructional School for Lecturers on Differential geometry held at Banasthali University, Rajasthan during December 08-20, 2014, sponsored by NCM.
2. Co-coordinator, National Workshop on Differential Geometry held at Banasthali University, Rajasthan during October 23-27, 2013, sponsored by DST Gov. of India.
3. Member organizing committee, National Workshop on Recent Trends in Biomathematics & Statistics held at Banasthali University, Rajasthan during Nov. 02-05, 2012, sponsored by DST Gov. of India.
4. Member organizing committee, National Workshop on Cryptography and Number Theory held at Banasthali University, Rajasthan during May 03-06, 2012, sponsored by DST Gov. of India.
5. Member organizing committee, National Workshop on Linear and Non-linear systems, organized by Banasthali University, Banasthali Rajasthan during December 15-19, 2011, supported by DST Gov. of India.
6. Member organizing committee, National Workshop on Block Designs and Their Applications, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during February 05-08, 2011.
7. Member organizing committee, Workshop on Latex and other open source Software, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during March 25-27, 2010.
8. Member organizing committee, National Workshop on Discrete Mathematics, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during May 01-05, 2010.
9. Member organizing committee, Mini MTTS Programm in Number Theory and Algebra, organized by Banasthali University, Banasthali Rajasthan during December 18-24, 2010 supported by NBHM.
10. Member organizing committee, Pre-Conference Workshop on Discrete Mathematics, organized by Center for Mathematical Sciences, Banasthali University, Rajasthan, India during January 06-10, 2009.

Details of the Ph. D. Supervision

Awarded: (01)

1. Ravindra (2011): Some Problems on Differential Geometry of Finsler Spaces (α, β) -metrics (awarded in 2014).

Submitted: (01)

2. Kiranta Kumari (2013): A Study on Partial Differential Equations using DTM.

Ongoing: (06)

3. Ms. Himani Sharma (2015): Topic is yet to be decided.
4. Ram Dayal Kushwaha (2014): A study on Differential geometry of Finsler spaces with Quartic-metric.
5. Sruthy Asha (2014): A Study on Differential Geometry of Finsler Spaces with generalized (α, β) -metric $\alpha + \varepsilon\beta + k \frac{\beta^2}{\alpha}$.
6. Ruchi Kaushik (2013): Investigations on Differential Geometry of Finsler Spaces with (α, β) -metrics.
7. Deepti Choudhary(2012): A Study on Differential Geometry of Finsler Spaces with (α, β) -metrics.
8. Vijeta Singh (2012): Some Investigations on Finsler Spaces with (α, β) -metrics.

Details of M. Phil. Supervision:

Awarded: (05)

1. Sruthy Asha Baby (2014-15): A Study on Finsler Spaces with Infinite Series (α, β) -metric.
2. Renu Sharma (2013-14): A Study on Applications of Differential Geometry of Finsler Spaces.
3. Proxy Gupta (2012-13): Differential Geometry of Special Finsler Spaces with (α, β) -metric.
4. Ravindra (2011-12): A Study On The Hypersurface of Some Special Finsler Spaces.
5. Neelam Sharma (2011-12): A Study On The L- Duality Between Finsler And Cartan Spaces.

Ongoing: (01)

1. Renu Kharab (2015-16): A study on generalized unicorns with (α, β) -metrics.

Details of M. Sc. Research Paper supervision:

Awarded: (20)

1. Anita Nehra (2014-15): Spray coefficients and some special Finsler spaces of h-Randers conformal change.
2. Himani Sharma (2014-15): Classification of Surfaces.
3. Vandana Sharma (2014-15): On Randers change of a Finsler space with m-th root metric.
4. Hemlata (2013-14): Finsler Manifolds with Reversible Geodesics.
5. Rinki Yadav (2013-14): Conformal Change of Douglas Space of second kind with (α, β) -metric.
6. Ekta (2012-13): The L-dual of a Finsler space with a approximate Matsumoto metric.
7. Jyoti Verma (2012-13): Finsler Space with Third approximate Matsumoto metric.
8. Vijeta Singh (2011-12): Differential Geometry and Mechanics: Applications to Chaotic Dynamical Systems.
9. Monika Kumari (2011-12): Projectively Flat Finsler Spaces with Certain (α, β) -metrics.
10. Monika Yadav (2011-12): On Projectively Flat Finsler Space with (α, β) -metric.
11. Komal Gupta (2010-11): The L-dual of some Special Finsler Spaces.
12. Monika Bansal (2010-11): On The Hypersurface of a Matsumoto Space.
13. Geetanjali Pandey (2010-11): On The Hypersurface of a Special Finsler Space with a special (α, β) -metric.
14. Vijaya Kumari (2009-10): Conformal Change of Three-dimensional Finsler Space.
15. Monika Yadav (2009-10): On The Hypersurface of a Three-dimensional Finsler Space.
16. Ramrati (2009-10): Finsler Geometry and its relationship with Physical Principles.
17. Pramila Yadav (2009-10): Four-dimensional Finsler space with constant unified main scalars.
18. Mukesh Kumari (2008-09): The L-dual of a Matsumoto Space.
19. Meenakshi Kausik (2008-09): Finslerian Hypersurfaces & Kropina change of Finsler metric.
20. Suman (2008-09): Finslerian Hypersurfaces & Randers change of Finsler Metric.

Ongoing: (02)

1. Kumudoni Purohit (2015-16): A study of Partial Quasi-metrics.
2. Vandana Mahala (2015-16): The Representation of Weighted Quasi-metric spaces.

Collaborations:

- **Prof. Hideo Shimada**

Department of Mathematics, Tokai University
Sapporo Campus, 5-1-1-1, Minamisawa,
Minami-Ku, Sapporo, 005-8601 Japan
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- **Prof. P. L. Antonelli**

Department of Mathematical Sciences, University of Alberta, Edmonton, Alberta, Canada
E-mail: peter.antonelli@gmail.com

- **Prof. Tadashi Aikou**

President Tensor Society, Japan
Department of Mathematics and Computer Science, Faculty of Science,
Kagoshima University, Kagoshima 890-0065 Japan
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- **Prof. C. S. Aravinda**

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- **Prof. H. S. Shukla**

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