



Name of the Faculty: Dr. Tadkeshwar Nath Mishra

Designation: Assistant Professor

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Educational Qualification:

Postdoc of National Board for Higher Mathematics, DST-CIMS, Banaras Hindu University;

Ph.D. (Maths) DST-CIMS, Banaras Hindu University

Total Experience: 5.5 Years

Academic: 02 Years & **Research:** 3.5 Years

Area of Interest: Numerical Techniques, Mathematical Modelling, Differential Equation, Nonlinear Dynamical Systems, Applications of Geometry

Brief Profile:

Dr. T. N. Mishra holds Ph. D. degree in Mathematics from DST-Center for Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi, India. He has about 6 years of teaching and research experience in different areas of Mathematics and is currently working as an Assistant Professor in the School of Engineering and Technology. He has published around 08 research papers in SCI International Journals and 04 conference publications. His research interest includes Numerical Techniques, Mathematical Modelling, Differential Equation, Nonlinear Dynamical Systems, and Applications of Geometry.

Research Publications

Total Citation Index: (h-index: 06, i10-index: 02)

(a) Research Papers Published in SCI Journals:

1. T. N. Mishra* and B. Tiwari, Stability and bifurcation analysis of prey-predator model, **Int. Journal of Bifurcation and Chaos** 31(4) (2021), 2150059-1--2150059-23 (SCI). (Link: <https://doi.org/10.1142/S0218127421500590>) (Impact Factor: 2.836)
2. M. Kumar, T. N. Mishra* and B. Tiwari, Stability analysis of Navier-Stokes System, **Int. Journal of Geometric Method in Modern Physics** 16(10) (2019), 15711-15723 (SCI). (Link: <https://doi.org/10.1142/S0219887819501573>) (Impact Factor: 1.874)
3. T.N. Mishra* and K.N. Rai, Highly accurate compact difference scheme for SPL heat conduction model of general body, **Zeitschrift fur Naturforschung Section A-A Journal of Physical Sciences** 71(11) (2016), 985-994 (SCI). (Link: <https://doi.org/10.1515/zna-2016-0067>) (Impact Factor: 1.426)
4. T. N. Mishra* and K. N. Rai, Numerical solution of FSPL heat conduction equation for analysis of thermal propagation, **Applied Mathematics and Computation** 273 (2016), 1006-1017(SCI). (Link: <http://dx.doi.org/10.1016/j.amc.2015.10.082>) (Impact Factor: 4.397)
5. T. N. Mishra* and K. N. Rai, Fractional single-phase-lagging heat conduction model for analyzing anomalous diffusion, **Propulsion and Power Research-Journal** 5(1) (2016), 45-54 (SCI). (Link: <http://dx.doi.org/10.1016/j.jprr.2016.01.003>) (Impact Factor: 5.3)
6. S. K. Singh, T. N. Mishra* and K. N. Rai, Coupled heat and mass transfer with one sublimation moving interface and freezing zone, **Computational Thermal Science: An Int. Journal** 7(4) (2015) 327-337 (SCI). (Link: <http://dx.doi.org/10.1615/ComputThermalScien.2015014156>) (Impact Factor: 1.8)
7. T. N. Mishra* and K. N. Rai, Implicit finite difference approximation for time fractional heat conduction equation under boundary condition of second kind, **Int. J. Applied Mathematical Research** 4(1) (2015), 135-149 (Google) (Link: <https://doi.org/10.14419/ijamr.v4i1.3783>).
8. T. N. Mishra*, S. Sarkar and K. N. Rai, Numerical solution of dual-phase-lagging heat conduction model for analyzing overshooting phenomenon, **Applied Mathematics and**

Computation 236 (2014), 693-708 (SCI). (Link: <http://dx.doi.org/10.1016/j.amc.2014.03.039>) (Impact Factor: 4.397)

(b) Published Papers in Conference Proceeding:

9. T. N. Mishra* and K. N. Rai, High order finite difference scheme for analyzing thermal wave propagation in SPL model, **Proceeding** of 1st International and 23rd National ISHMT-ASTFE Heat Mass Transfer Conference, December 17-20, 2015, Trivandrum.
10. T. N. Mishra* and K. N. Rai, Thermal effect in FSPL heat conduction model irradiated by laser heat source, **Proceeding** of 6th International Symposium on Advances in Computational Heat and Mass Transfer, May 25-29, 2015, Rutgers University USA (Link: <http://10.1615/ICHMT.2015.IntSympAdvComputHeatTransf.50>)
11. T. N. Mishra* and K. N. Rai, Numerical solution of SPL heat conduction model irradiated by laser heat source, **Proceeding** of National Conference on Advance in Thermal Engineering, December 19-20, 2014, ISM Dhanbad.
12. T. N. Mishra* and K. N. Rai, Compact difference scheme for solving 1 D dual-phase-lagging heat transport equation, Proceeding of 11th International and 22nd National ASME-ISHMT Heat Mass Transfer Conference, December 28-31, 2013, IIT Kharagpur.

PAPERS PRESENTED IN CONFERENCE:

1. "Jacobi stability analysis of prey-predator model" in International Conference on Differential Equations and Numerical Analysis, during October 12-15, 2020, at Department of Mathematics, IIT Guwahati.
2. "KCC theory and its application Navier-Stokes system" in National Conference on Recent Trends in Geometry and its Applications, during February 08-09, 2020, at Department of Mathematics, Banaras Hindu University, Varanasi
3. "Compact difference scheme for solving fractional single-phase-lagging heat conduction model" in 29th Annual Conference of Mathematical Society of Banaras Hindu University, during February 03-04, 2014.
4. "Implicit finite difference approximation for time fractional heat conduction under most generalized boundary condition" in the National conference on Emerging Trends in Physics of Fluids and Solids, during February 27-28, 2013, at Department of Mathematics Jadavpur University, Kolkata.

5. "Compact difference scheme for solving 1 D dual-phase-lagging heat transport equation", in the 11th International and 22nd National ASME-ISHMT Heat Mass Transfer Conference, during December 28-31, 2013, at IIT Kharagpur.

PARTICIPATED TRAINING PROGRAMME/WORSHOP/SCHOOL/FDP

1. AICTE (ATAL) Academy **Online Faculty Development Program on Capacity Building**, Rajeev Gandhi Government Polytechnic, Itanagar, during February 15-19, 2021.
2. AICTE (ATAL) Academy **Online Faculty Development Program on Applied Mathematics (Computational Techniques)**, Indian Institute of Informational Technology, Nagpur, during February 01-05, 2021.
3. AICTE (ATAL) Academy **Online Faculty Development Program on Internet of Things**, Women Engineering College, Jaipur, during October 12-16, 2020.
4. **National Online Workshop on Indian Citation Index**, Banaras Hindu University-HRDC, on September 27, 2020.
5. **International Webinar on Quintic and Quinticated Nonlinear Oscillators**, Department of Civil Engineering, Poornima College of Engineering, Jaipur, on June 17, 2020.
6. **CIMPA School on Geometry and Applications**, DST-CIMS, BHU, during December 05-15, 2019.
7. **AICTE Short Term Course and Continuing Education Program** on "Computational Methods for Integral and Differential Equations, Department of Mathematical Sciences, IIT(BHU), during December 10-16, 2018.
8. **Advanced Workshop** on Partial Differential Equations: Analysis and Applications, DST-CIMS, BHU, Varanasi, during July 22-31, 2013.
9. **Advanced Training Programme** on Integral Transforms, Wavelets, Distribution Theory & Applications, DST-CIMS, BHU, Varanasi, during July 12-21, 2012.
10. **Latex Training Programme** held at DST-CIMS, BHU, Varanasi, during March 19-24, 2012.
11. **Advanced Training Programme** on Optimization and its Applications held at DST-CIMS, BHU, during November 23-29 2011.

Organized Training Program:

1. Hands on Training Programme on C and MATLAB, for research scholars of University, held at DST-CIMS, BHU, Varanasi, during November 16-21, 2015.
2. II Hands on Training Programme on MATLAB, for research scholars of University, held at DST-CIMS, BHU, Varanasi, during December 09-14, 2013.
3. Hands on Training Programme on MATLAB, for research scholars of University, held at DST-CIMS, BHU, Varanasi, during October 14-20, 2013.

Membership/Reviewer of Professional Bodies:

1. Reviewer of Journal of Heat Transfer
2. Reviewer of International Journal of Bifurcation and Chaos
3. Reviewer Pure and Applied Mathematics Journal (Sci. Publ. Group)
4. Member of Applied and Computational Mathematics (Sci. Publ. Group)
5. Member of Mathematical Society of Banaras Hindu University

Other Achievements:

1. Secure 40 AIR in CSIR-NET June 2012
2. Secure 538 AIR in GATE 2010
3. Secure 351 AIR in GATE 2012
4. Secure 01 Rank in BHU-CRET 2011