# Dr. Gaurav Varshney Associate Professor (Mathematics) Sri Dev Suman Uttarakhand University, Pt. L.M.S. campus Rishikesh, Uttarakhand Phone: +91-9917290065 E-mail: gauravdips@gmail.com Web Page: drgaurav.iitr.googlepages.com/home

# PUBLICATIONS

- 1. A study on Indian Mathematicians and their Contributions in the Development of Mathematics, Accepted for publication in Viksit India, 2(2), 2278-1757, 2024.
- 2. Mathematical Modeling in Nanotechnology- An Overview, Accepted for Publication in Futuristic Trends in Chemical, Material Sciences & Nanotechnology, IIP Series, Volume 3 Book, 2023
- 3. A Theoretical Study of Modelling and Simulation in Mathematical Sociology: Future Directions and Challenges, International Journal of Multidisciplinary Research and Analysis 6 (6), 2299-2304, 2023.
- 4. A Study of Mathematical Models Applicable in Chemical Sciences, European Chemical Bulletin 12 (Special Issue 8), 1133-1143, 2023.
- 5. Advancement in Mathematical Modelling of Economic Systems: A Review, International Journal of Engineering, Science and Mathematics, 12 (7), 62-81, 2023.
- 6. Micropolar Fluid Model for Blood Flow through a Stenosed Artery in the Presence of Magnetic Field, Journal of Computer and MathematicalSciences, Vol. 10 (9), pp. 1598-1608, 2020.
- 7. Mathematical Modeling and its importance in Career Perspective, Published in Global Research in Dynamic World: Issues and Challenges in Shodhmanthan, Vol. X (Special-8), pp. 56-60, 2019.
- 8. Blood Flow Pattern in Stenosed Artery with Complete bypass Graft: a CFD Approach, Published in International Journal of Mathematical Sciences & Engineering Research, Vol. 12 (III), pp. 71-87, 2019.
- 9. Comparison of Newtonian and Non-Newtonian Blood Flow in Stenotic Coronary Artery using Numerical Simulation, Published in Science Phenomenon, vol. 18(18), pp.86-91, 2018.
- 10. Role of Mathematical Modeling in Preventing Natural Disaster, published in Journal Global Values, Vol. VII (Special Issue), pp. 203-214,2016.
- 11. A Computational Fluid Dynamic Study of Blood flow Pattern in StenosedArtery with Complete Bypass Graft, Published in *Modern Approach to Mathematics, Published by Yking Books* 2015.

- 12. Effect of magnetic field on the blood flow in artery having overlapping stenosis: a numerical study, Published in International Journal of Engineering, Science and Technology, Vol 2(2), pp. 67-82, (2010).
- 13. Mathematical Modeling of Pulsatile Blood Flow and Heat Transfer Characteristics in Stenosed Artery, Published in International Journal of Fluid Mechanics Research, Vol 34(4), pp. 305-324, 2010.
- 14. Numerical Modeling of Pulsatile Flow of Blood through a Stenosed Tapered Artery under Periodic Body Acceleration, published in *Journal ofMechanics in Medicine and Biology*(JMMB), Vol 10(2), pp. 251-272, 2009.
- 15. Analysis of flow fields in stenosed artery with complete bypass graft using numerical method, Published in *Indian Journal of Biomechanics Special Issue*, pp. 65-69, March 2009.
- 16. Mathematical Modeling and Numerical Simulation of Drug Release in Stented Artery, *Int. Journal of Applied Mathematics and Mechanics*, 4 (1) : 91-102, 2008.
- 17. Computational Study of Steady Blood Flow Simulation in a Complete Coronary Artery Bypass Anastomosis Model, *Canadian Journal of pure and applied Sciences*, Vol-1, Number 1(2007) pp 103-109.
- 18. Mathematical modeling of blood flow in an arterial bypass anastomosis, Abstract in Journal of Biomechanics, Vol.-39, (2006). Pp. S405.

### PATENT

- 1. A System and Method for Providing Mathematical Model for Blood Flow in Artery having Multiple Stenosis in the Presence of Externally Imposed Magnetic Field, The Patent Office Journal No 27/2023 Dated 07/07/2023.
- 2. A System and Method for Providing Computational Model for Blood Flow in Stenosed Artery with Complete Bypass Graft, The Patent Office Journal No 27/2023 Dated 07/07/2023.

### **EDITED BOOKS**

- 1. A Text Book of MECHANICS, S. J. Publication, Meerut, 2020, ISBN 978-93-80803-64-7.
- 2. A Text Book of VECTOR SPACES AND MATRICES, S.J. Publication, Meerut, 2018, ISBN 978-93-87007-10-9.
- 3. A Text Book of LINEAR ALGEBRA, S.J. Publication, Meerut, 2020, ISBN 978-93-87007-42-0.
- 4. A Text Book of **OPERATIONS RESEARCH**, S.J. Publication, Meerut, 2019, ISBN 978-93-87007-67-3.
- 5. REAL ANALYSIS, Pragati Prakashan Meerut, 2016, ISBN 978-93-86104-71-7.
- 6. A Text Book of **MATRIX**, **TRIGONOMETRY**, S.J. Publication, Meerut, 2022, ISBN 978-93-95562-04-1

- 7. A Text Book of **GROUP THEORY**, S.J. Publication, Meerut, 2023, ISBN 978-93-95562-76-8
- 8. A Text Book of INTEGRAL CALCULUS, S.J. Publication, Meerut, 2023, ISBN 978-93-95562-42-3
- A Text Book of VECTOR ANALYSIS, S.J. Publication, Meerut, 2023, ISBN 978-93-95562-39-3
- 10. A Text Book of **ANALYTIC GEOMETRY**, S.J. Publication, Meerut, 2023, ISBN 978-93-95562-74-4
- 11. A Text Book of **ABSTRACT ALGEBRA AND RING THEORY**, S.J. Publication, Meerut, 2023, ISBN 978-93-95562-97-3

### **CONFERENCE/SEMINAR/FDP ORGANIZED:**

- Convener of National Conference on Role of Mathematical and Physical Sciences in Engineering and Technology (NCRMPET-2011) during October 21-22, 2011 in Government Degree College Karanprayag (Chamoli) Uttarakhand India Sponsored by CSIR, DRDO and UCOST.
- **2.** Convener of **Regional Seminar** on "Development in Mathematics and its Applications" on December 04, 2013 in Government Degree College Karanprayag (Chamoli) Uttarakhand India.
- **3.** Convener of **National Conference** on Role of Mathematics in Sustainable Development during October 17-18, 2014 in Government Degree College Karanprayag (Chamoli) Uttarakhand India Sponsored by D.S.T. and I.N.S.A..
- 4. Convener of e-Workshop on Conservation and Cultivation of MedicinalPlants by NSS, S.B.S. Govt. P. G. College Rudrapur on 16 JULY 2020
- **5.** Convener of **One Day Webinar** on National Education Policy-2020 S.B.S. Govt. P. G. College Rudrapur onSeptember 22, 2020.
- 6. Convener of National Webinar on Documentation of Socio-Economic Political, Cultural and Traditional Knowledge of Tarai Region ofUttrakhand in S.B.S. Govt. P. G. College Rudrapur on August 12-13, 2021.
- 7. Organizing Secretary of One day International Seminar on Recent Trends in Mathematics Education: The way ahead in the context of NEP-2020 in Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh, on December 22, 2021.
- 8. Organizing Secretary of Seminar on "Gender Equality Today for a Sustainable Tomorrow-A Mathematical Analysis" in Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh on March 08, 2022.
- **9.** Organizing Secretary of Symposium on "Building Innovative and Creative Character through Mathematics" in Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh on March 10, 2022.
- **10.** Organizing Secretary of International Conference on "Recent Advances in Mathematics and its Applications in Interdisciplinary Areas" in Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh on May

13, 2023.

- 11. Course Coordinator of One Week Faculty Development Program on MATLAB and its Applications in AI and ML organized by Faculty Development Center, Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh from August 16-21, 2023.
- 12. Organizing Secretary of International Conference on "Advancement in Physicsl Sciences: Promoting Societal Welfare, Sustainable Development and NEP-2020" in Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh on September 15-16, 2023.
- 13. Program Coordinator of One Week Faculty Development Program on Academic Writing-Enhancing Scholarly Skills organized by Faculty Development Center, Sridev Suman Uttarakhand University, Pandit Lalit Mohan Sharma Campus Rishikesh from September 25-29, 2023.