

Name: Designation : Address:

E-mail: Mobile: R Radha Professor and Dean School of Mathematics & Statistics University of Hyderabad, Hyderabad India <u>repakar@yahoo.com</u>, repakar@uohyd.ac.in 91-9177529350

Education:

M.Sc. – Applied Mathematics -University of Hyderabad, 1988. M.Phil.- Applied Mathematics -University of Hyderabad, 1989. Ph. D. - Indian Institute of Technology Bombay, 1994.

Fellowships:

CSIR J.R.F. & S.R.F. -1988-93. CSIR Research Associate, 1994-1995. BOYSCAST Visiting Fellow (sponsored by DST, India.) - University of Edinburg, UK, 1999-2000.

Experience:

Lecturer - Visvesvaraya National Institute of Technology, Nagpur, 1995-2004. Reader- Department of Mathematics and Statistics, UoH, 2004-2007. Associate Professor - Department of Mathematics and Statistics, UoH, 2007-2010. Professor - School of Mathematics and Statistics, 2010-till date.

Research interests:

Quasilinear Hyperbolic Equations, Partial Differential Equations.

Supervision:

Ph. D. -1 Integrated M.Sc. -7

List of Publications :

- 1. (With V.D.Sharma and A.Jeffrey) Interaction of shock waves with weak discontinuities, **Applicable Analysis**, 50 1993) 145 166.
- 2. (With V.D.Sharma) Imploding cylindrical shock in a perfectly conducting and radiating gas, **Physics Fluids B**, 5 (1993) 4287.
- 3. (With V.D.Sharma) On one dimensional planar and nonplanar shock waves in a relaxing gas, **Physics Fluids**, 6(1994) 2177 2190.

- 4. (With V.D.Sharma)High and low frequency small amplitude disturbances in a perfectly conducting and radiating gas, **International Journal of Engineering Science**, 33 (1995)2001-2010.
- 5. (With V.D.Sharma) Similarity solutions for converging shocks in a relaxing gas **International Journal of Engineering Science**, 33(1995)535 553.
- 6. (With V.D.Sharma) Strong converging shock waves in a radiating gas, **ZAMM**, 75 (1995) 847 859.
- (With V.D.Sharma) Propagation and Interaction of waves in a relaxing gas, Philosphical Transactions of the Royal Society London A, 352(1995) 169 - 195.
- 8. (With V.D.Sharma) Three dimensional shock wave propagation in an ideal gas, **International Journal Non-linear Mechanics,** 30(1995) 305-322.
- 9. (With D.F.Parker) Photorefractive accelerating pulses, **Journal of Physics A: Mathematical and General**, 35 (2002) 1283- 1295.
- (With D.F.Parker) Accelerating solitons for sliding frequency filter systems, Physical Review E, 65 (2002).
- 11. (With V.D.Sharma and A. Jeffrey)An approximate analytical method for describing the kinematics of a bore over a sloping beach, **Applicable Analysis**, 81 (2002) 867 892.
- 12. (With V.D.Sharma and S. A. V. Manickam) Far field behaviour of waves in a vibrationally relaxing gas, **Applied Numerical Mathematics**, 45 (2003) 293- 307.
- 13. (With V.D.Sharma) Exact solutions of Euler equations of ideal gasdynamics via Lie group analysis, **ZAMP**, 59 (2008)1029 1038.
- (With V.D.Sharma) Similarity analysis and exact solutions of Magnetogasdynamic equations, The Quarterly Journal of Mechanics and Applied Mathematics, 61 (2008)291-310.
- 15. (With B.Sri Padmavati, and T.Amaranath) New approximate analytical solutions for creeping flow past axisymmetric rigid bodies, **Mechanics Research Communications**, Vol.37, 2010, pp256-260.
- 16. (With V.D.Sharma) Interaction of a weak discontinuity with elementary waves of Riemann problem, **Journal of Mathematical Physics**, 53 (2012)013506.
- 17. (With B.Sri Padmavati and T.Amaranath) A new approximate analytical solution for arbitrary Stokes ow past rigid bodies, **ZAMP**, 63 (2012) 1103-1117.
- 18. (With B.Sri Padmavati and D. Choudhuri) Stokes ow past an arbitrary shaped body with slip stick conditions, **Applied Mathematics Computation**, 219 (2013) 5367-5375.
- 19. (With K.Ambika and V.D.Sharma) Progressive waves in non-ideal gases, International Journal Non-linear Mechanics, 67 (2014) 285290.
- 20. (With K.Ambika) Riemann problem in non-ideal gas dynamics, **Indian Journal of Pure** and Applied Mathematics, 47 (2016) 501-521.
- 21. (With B. Sri Padmavati) Stokes flow past porous bodies of arbitrary shape, **Indian** Journal of Pure and Applied Mathematics, Vol 51 (2020) 1247-1263.
- (With. K. Ambika) Geometrical acoustic waves in van der Waals gases, Frontiers in Mathematics, The Special Issue of The Proceedings of Telangana Academy of Sciences, Volume 1 (2020) 147-155.
- 23. (with V D Shrma and A. Kumar) Riemann problem for rate-type materials with nonconstant initial conditions, Mathematical Methods in the Applied Sciences . 2021;1-15. <u>https://doi.org/10.1002/mma.7663</u>.
- 24. (with A. Kumar) Riemann problem for the Chaplygin gas equations for several classes of non-constant initial data, **European Journal of Mechanics / B Fluids** (accepted).

Other Information:

- Member of the Local Organizing Committee of International Conference of Women Mathematicians (ICWM 2010), UoH, held prior to ICM 2010 in August, 2010.
- Member of the Local Organizing Committee of the Advanced Instructional School on Mechanics, supported by N.B.H.M. and conducted at Department of Mathematics and Statistics at University of Hyderabad during 5-24 December, 2011.
- Member of the Organizing Committee of the Workshop on Recent Trends in Partial Differential Equations and Applications" held during 18-19 March, 2012 at Department of Mathematics and Statistics, University of Hyderabad.
- Coordinator of the workshop on Partial Differential Equations and Mechanics under the Advanced Training in Mathematics Schools Programme which was organized at Jaypee University of Information Technology, Waknaghat, Himachal Pradesh during 3rd-15th June, 2013.
- Organized a UGC-Refresher Course on Mathematics for college teachers at Academic Staff College, University of Hyderabad in the year 2014.
- Deputy Director for Centre for Integrated Studies, UoH, during, 2013-2015.
- Member of the Local Organizing Committee of `Indian Women and Mathematics (IWM) Annual Conference 2016 held at University of Hyderabad during 29 June-1st July, 2016.
- Coordinator of the Workshop on Differential Equations under the Advanced Instructional School which was organized at University of Hyderabad held in 2018.
- Deputy Coordinator of UGC-SAP-DSA-I during 2016-2020.
- Fellow of Telengana Academy of Sciences.
- Member of the Advisory Board for the organizing the 3rd International Conference on Mathematical, Physical and Computational Sciences 2021 during the period 27-28, August, 2021.
- External member of the Board of Studies for the Department of Mathematics at Maulana Azad National Urdu University, Hyderabad for a period of three years from 2020.