Curriculum Vita

Dr. Sushil Kumar Ghosh

Associate Professor in Applied Mathematics Department of Mathematics, Garhbeta College

Date of Birth: 15.01.1968

Qualifications: 1) M. Sc. in Applied Mathematics (IIT, Kharagpur) 1993

2) Ph. D. in Bio-Fluid Mechanics (IIT, Kharagpur) 1999

Qualifying National Exams.: i) GATE ii) NET (CSIR)

Teaching Experience:

Under-graduate Level: College/Univ./Institute/No. of Years/Pass/Hons.:

(i) Sikkim Manipal Institute of Technology, 2 years: Engineering Mathematics(ii) Garhbeta College17 years: General & Hons, Both

Post-graduate Level: Name of the Univ./Institute

(i) Vidyasagar University--- **Topic Taught:** Eigen Value Problem, Continuum Mechanics, Integral Transform, Fluid Mechanics, MHD

(ii) Netaji Subhas Open University--- **Topic Taught:** Continuum Mechanics, Differential Equations, Fluid Mechanics.

Research Field: Fluid Dynamics, Heat Transfer, Two Phase Flow, Bio-Mechanics,

Bio-Magnetic Fluid Dynamics.

MinorResearch projects carried out/ongoing funded by UGC as a Principal Investigator:

Title of the Project	Funding Agency	Period	Completed/ ongoing	Amount
(i) Mathematical Modelling of Poroelastic Channel Flow (Principal Investigator)	UGC	20012003	Completed	Rs. 50,000.00
ii) Hydro-Magnetic Flow of a non- Newtonian Fluid Through a Channel (<i>Principal Investigator</i>)	UGC	20052007	Completed	Rs. 80,000.00
(iii) Interaction of Magnetic Field with Blood Flow in Arteries (Principal Investigator)	UGC	20092010	Completed	Rs. 86,500.00
(iv) Heat and Mass transfer of a Visco- elastic Fluid passing over a plate in the presence of traverse Magnetic field A Numerical Investigation (Principal Investigator)	UGC	20122013	Completed	Rs.1,94,000.00

v) Computational Modeling for the flow of Magnetic Nano- Particles along with the blood and Electromagnetically Induced Heat Transfer An Application to Destruction of	UGC	2017	On Going	Rs. 3,00,000.00
Cancer Cells				
(Principal Investigator)				

List of Publications of Dr. Sushil Kumar Ghosh

- "A mathematical model for the study of blood flow through a channel with permeable walls", *Acta Mechanica* (An International Journal), Vol. 122, No.1—4, 137---153, 1997
- 2. "Flow of a non- Newtonian fluid through a channel with a porous pulsating walls Application to hemodialysis/ultrafiltration in artificial kidney" **Modeling, Measurement and Control(AMSE),** (An International Journal), Vol. 57, 47---63, 1998
- "Pulsatile flow of a couple stress fluid through a narrow porous tube of elliptic cross Section: A model for blood flow in a stenosed arteriole", *Engineering Simulation*, (An International Journal), Vol. 15, 849---864, 1998
- 4. "Flow of a Casson fluid in a narrow tube with a side branch", *International Journal of Engineering Science* (An International Journal),, Vol. 38, 2045-2077, 2000
- 5. "A mathematical model for the study of interstitial fluid movement vis-à-vis the non-Newtonian behaviour of blood in a constricted artery", *Computers and Mathematics with Applications* (An International Journal),, Vol 41, 783--811, 2001
- 6. "Pulsatile flow of blood through a porous elastic vessel of variable cross-section", *Computers and Mathematics with Applications* (An International Journal),, Vol. 43, 903--916, 2003
- 7. "Hydro-magnetic Fluctuating Flow of a Visco-elastic Fluid in a porous Channel", *J. Appl. Mech.* (ASME), (An International Journal),, Vol. 129, No.2, 177—180, 2007

- 8. "An Exact Solution of a Hydro-magnetic Flow of a non-Newtonian Fluid through Channel with a oscillating wall", Published in *Review Bulletin of the Calcutta Mathematical Society* 16(2) 145-154, 2008
- 9. "Micropolar Fluid Through a Channel--A Mathematical Model for Lung alveolar Sheet" *Journal of Physical Sciences*, Vol. 15, 43—57, 2011
- "Mixed convection MHD flow of viscoelastic fluid in a porous medium past a hot vertical plate"
 World Journal of Mechanics (An International Journal), Vol. 2, 262—271, 2012
- 'An Exact Solution of Fluctuating Hydromagnetic Flow of a Dusty Fluid Between Parallel Plates'
 Annals of Pure and Applied Mathematics (An International Journal),, ,Vol. 4, 120-126, 2013
- **12.** "Unsteady Hydro-magnetic Flow of an Oldroyd Fluid Through a Porous Channel with Oscillating Walls', *Journal of Physical Sciences*, Vol. 17, 155-167, 2013
- 13. "Unsteady Hydro-magnetic Flow of a Viscous Fluid Passing over an oscillating Flat Plate', *International Journal of Applied Mathematics and Mechanics*, Vol. 3, 1-8, 2014
- "Heat Transfer in Hydro-magnetic fluid Flow: Study of Temperature Dependence of Fluid Viscosity", *Journal of Applied Fluid Mechanics* (An International Journal), Vol. 7, 4, 633—640, 2014
- 15. "Convective heat transfer and MHD viscoelastic nanofluid flow induced by a stretching sheet" 'International Journal of Applied and Computational Mathematics 'DOI 10.1007/s40819-015-0080-4, 2015
 - 16. "MHD Rotating Flow and Heat Transfer through a Channel with Hall effects" Journal of Magnetism and Magnetic Materials 10.1016/j.jmmm.2015.12.033, 2016
 - 17. "Effects of Joule Heating and Viscous Dissipation on MHD Visco-elastic Fluid Flow Past a Stretching Surface with Source/Sink", *International Journal of Mathematics and Computations*, Vol. 27, No. 3, 2016.
 - 18. "Flow of a non-Newtonian Heated Fluid in a tube with a side branch" *International Journal of Applied and Computational Mathematics*, DOI 10.1007/s40819-016-0210-7, 2016
 - 19." Unsteady Magnetized Flow and Heat Transfer of a Viscoelastic fluid over a Stretching Surface", Communicated to ,Journal of Magnetism and Magnetic Materials.