

# CURRICULAM-VITAE

**Name** : **DR. (MRS.) JAIMALA**

**Present Address** : Dr. Jaimala  
Professor and Head  
Department of Mathematics,  
Ch. Charan Singh University,  
Meerut, (U.P.) India

## ACADEMIC QUALIFICATION

EXAMINATION	DIV.	%	YEAR	BOARD/UNIVERSITY
High School	1 <sup>ST</sup>	65.4%	1981	U. P. Board, Allahabad
Intermediate	1 <sup>ST</sup>	71.4%	1983	U. P. Board, Allahabad
B. A.	1 <sup>ST</sup>	70.2%	1985	Ch. Charan Singh University, Meerut
M. A.	1 <sup>ST</sup>	82.5%	1987	Ch. Charan Singh University, Meerut
M. Phil.	1 <sup>ST</sup>	90.8%	1988	Ch. Charan Singh University, Meerut
<b>M. Phil. Project Title:</b> "Stability of Stratified and Dusty Flows."				
Ph. D. (Mathematics)			1992	Institute of Advanced Studies, Ch. Charan Singh University, Meerut
<b>Ph. D. Thesis Title:</b> "Stability of Stratified and Dusty Flows." <b>Supervisor:</b> Prof. S.C. Agrawal, Ch. Charan Singh University, Meerut				

## SCHOLARSHIPS / FELLOWSHIPS / MEDALS

- 🏆 National Scholarship of Merit for two years in M. A.
- 🏆 Gold Medal for the best student in M. M. H. College, Ghaziabad, in the year 1987.
- 🏆 Merit Certificate from University for securing 1<sup>ST</sup> position in M. A. & M. Sc. both in University.
- 🏆 Scholarship of Merit for one year in M. Phil.

🚩 Merit Certificate for securing 1<sup>ST</sup> position in M. Phil. in all faculties of University.

🚩 Recipient of U. G. C. (NET) Research Fellowship.

## **POSITIONS HELD**

25 Feb 1991 - 24 Feb 2000	:	Lecturer, Department of Mathematics S.S.V. (P.G.) College, Hapur
25 Feb 2000 - 15 July 2002	:	Reader, Department of Mathematics S.S.V. (P.G.) College, Hapur
16 July 2002 – 30 November, 2008	:	Reader, Department of Mathematics Ch. Charan Singh University, Meerut (U.P.), India
1 December, 2008	:	Professor, Department of Mathematics Ch. Charan Singh University, Meerut (U.P.), India

## **PARTICIPATION IN SYMPOSIA / CONFRENCES/ WORKSHOP**

### **(INTERNATIONAL /NATIONAL)**

- 🚩 Delivered an invited talk on the topic “Instability Problems through Porous Medium” in the National Seminar on “Recent Trends in Mathematical Biosciences” held at H. B. T. I. Kanpur, India.
- 🚩 Presented the research paper entitled “ Stability of Dusty Flow between Two Rotating Coaxial Cylinders in a Porous Medium” (Co-authors: Rachna and S. C. Agrawal) in the 61<sup>st</sup> annual session of the National Academy of Sciences, India, held at Ch. Charan Singh University, Meerut, India.
- 🚩 Presented the research paper entitled “ Stability of Thermoconvective Flow through a Saturated Porous Medium” (Co-author : S. C. Agrawal) in the 37 INSTAM Congress, India, held at G. B. Pant University of Agriculture and Technology, Pantnagar, India.
- 🚩 Member of organizing committee of an International Conference of ‘ International Academy of Physical Sciences’ held at Ch. Charan Singh University, Meerut, India.
- 🚩 Presented the research paper entitled “Shear Flow Instability of a Viscoelastic Fluid (Oldroydian) in a Porous Medium: Effect of a Weak Magnetic Field” in an International Conference of ‘ International Academy of Physical Sciences’ held at Ch. Charan Singh University, Meerut, India.

- ✚ Presented the research paper entitled “On the Stability of Stratified Flows of Micropolar Fluids” in an International Conference held at G. B. Pant University, Pantnagar, India.
- ✚ Delivered a guest lecture on ”Linear Stability of Flows: Concept and Recent Trends” in 4<sup>th</sup> M. P. Science Congress held at Govt. Holkar Science College, Indore (M. P.), India.
- ✚ Presented the research paper entitled “Stability Analysis: A Mathematical Process of Realization of Flow Pattern, Suggested Models and Applications, held at Madhav Institute of Technology and Science, Gwalior (M. P.), India.
- ✚ Member of organizing committee of National Symposium on “Mathematics in Computer Applications” held at Ch. Charan Singh University, Meerut, India.
- ✚ Delivered ‘Prof. S. D. Nigam Memorial Lecture’ in annual Conference of Vijnana Parishad of India and the Global Society of Mathematics and Allied Sciences held at Shobhit University, Meerut, India.
- ✚ Presented the research paper entitled “Soret Dufour Effect on the Stability of Micropolar Fluid in a Porous Medium” in an International conference held at Potsdam, Germany.
- ✚ Presented the research paper entitled “Soret Dufour Driven Thermosolutal Convection in Micropolar Rotating Fluids in Hydromagnetics in Porous Medium” in an International Conference- 57 Congress of ISTAM, held in DIAT, Pune.
- ✚ Delivered an invited talk on the topic “Blood Flow Behaviour in the Arteries in the presence of Stenosis: Rheology to Mathematical Modelling” in an International Conference held at Multanimal Modi College, Modinagar, India.
- ✚ Attended a Workshop on  $M^3$  - Mathematical Modelling with Mathematica’ held at Guru Gobind Singh Indraprastha University, New Delhi, India.
- ✚ Delivered an invited talk on the topic “Blood Flow Behaviour in Arteries: Hemorheology to Mathematical Modelling” in a national Conference at Hindu Girls’ College, Sonapat, Haryana, India, from Feb. 28 - 01 March, 2014.

## **RESEARCH PAPERS**

### **PUBLISHED**

1. Compressible Flow Instability in Porous Medium (Jointly with S. C. Agrawal), (Ganita, Vol. 41(1), 81-97, 1990).
2. Shear Flow Instability in Porous Medium (Jointly with S. C. Agrawal), (Indian J. Pure Appl. Mathematics, 22(7), 611-625, 1991).
3. Compressible Shear Flow Instability in Porous Medium, Part-I Slightly Compressible Flow with Subsonic Disturbances (Jointly with S. C. Agrawal), (Pure and Appl. Mathematical Sci. Vol. XXXX, No.1-2, 81-93, 1994).
4. Compressible Shear Flow Instability in Porous Medium Part-II Subsonic Disturbances in the Presence of a Weak Applied Magnetic Field (Jointly with S. C. Agrawal), (Pure and Appl. Mathematical Sci. Vol. XXXX, No.1-2, 95-101, 1994).

5. Shear Flow Instability of an Incompressible Visco-elastic Second Order Fluid in a Porous Medium (Jointly with Atul Kumar Goel and S. C. Agrawal), (Indian J. Pure Appl. Mathematics, Vol. 28(4), 563-573, 1997).
6. Shear Flow Instability of an Incompressible Visco-elastic Fluid in a Porous Medium in the Presence of a Weak Magnetic Field (Jointly with Nidhi Bansal and S. C. Agrawal), (Indian J. Pure Appl. Mathematics, Vol. 30(12), 1283-1295, 1999).
7. Shear Flow Instability of Visco-elastic Fluid in an Anisotropic Porous Medium (Jointly with Anshu Agrawal and S. C. Agrawal), (Ganita, Vol. 55(1), 61-73, 2004).
8. On the Stability of Stratified Flows of Micropolar Fluids (Jointly with Nidhi Goyal and S.C. Agrawal) (Journal of Applied Mathematical Analysis and Applications, Vol. 3(2), 181-193, 2007).
9. On the Stability of Stratified Flows of a Micropolar Fluid in a Porous Medium (Jointly with Nidhi Goyal and S.C. Agrawal), (Ganita, Vol. 59(2), 39-58, 2008).
10. Shear Flow Instability of a Viscoelastic (Oldroydian) Fluid in a Porous Medium: Effect of Weak Magnetic Field (Jointly with Anshu Agrawal and S. C. Agrawal), (Indian Research Communication, Vol. 2(1), 7-15, 2008).
11. Hydromagnetic Instability of Shear Flow of Visco-elastic Fluid in an Anisotropic Porous Medium (Jointly with Arvind and S. C. Agrawal, International J Mathematical Sciences, Vol.7(3-4), 287-397, 2008).
12. Stability of the Flow of a Dusty Gas (Jointly with Arvind and S. C. Agrawal, The Global Journal of Applied Mathematics & Mathematical Science (GJ-AMMS) Vol.2 (1-2), 95-108, Jan-Dec 2009).
13. Soret – Dufour Instability of an Incompressible, Viscous Fluid Confined in a Porous Medium in the Presence of Magnetic Field (Jointly with Subodh Kumar Rana, Ruchi Goel and S. C. Agrawal), (J. Rajasthan Acad. Phy. Sci., Vol. 8(1), 115-126, March 2009).
14. Linear Stability of Flows: Concept and Recent Trends (Jaimala), (Indian Research Communication, Vol. 3(1), 67-75, 2009).
15. An Analytical Approach to Shear Flow Instability of Dusty Gas in Motion: Effect of Fine Dust and Weak Magnetic Field (Jointly with Ruchi Goel, Hari Kishan, V. K. Agarwal and S. C. Agrawal) (Proceedings of the National Academy of Sciences, India, Vol. 80, A, Part IV, Oct-Dec, 2010).
16. Thermal Convection in a Compressible Walters' (Model B') Elastico-viscous Dusty Fluid in the Presence of Vertical Magnetic Field with Hall Currents (Jointly with Vikrant and Vivek Kumar) (Int. J. of Applied Mech. and Engg., (Poland), Vol.16(4), 1189-1203, 2011).
17. The Onset of Stationary and Oscillatory Convection in a Horizontal Porous Layer Saturated with Viscoelastic Liquid Heated and Solutal from Below (Jointly with Vipin Kumar Tyagi, and S. C. Agrawal) (J. Rajasthan Acad. Phy. Sci., Vol. 11(2), 141-158, June 2012).
18. Soret- Dufour Driven Thermosolutal Instability of Darcy - Maxwell Fluid (Jointly with Nidhi Goyal), (IJE TRANSACTIONS A: Basics (Iran) Vol. 25(4), 315-324, October 2012).
19. The Onset of Stationary and Oscillatory Convection in a Horizontal Porous Layer Saturated with Viscoelastic Liquid Heated and Solutal from Below: Effect of Anisotropy (Jointly with Vipin Kumar Tyagi and S. C. Agrawal), (AAM (Application and Applied Mathematics, USA), Vol. 8, Issue 1, 228 – 250, June 2013).

20. Thermal Convection in a Couple Stress Fluid in the Presence of Horizontal Magnetic Field with Hall Current (Jointly with Vikrant and Vivek Kumar), (AAM (Application and Applied Mathematics, USA), Vol. 8, Issue 1, 161– 177, June 2013).

21. A note on the paper of Nield and Kuznetsov (Jointly with Reema Singh) (Transport in Porous Media (2 January, 2014), DOI 10.1007/S 11242-014-0269-8).

### **PUBLISHED IN CONFERENCE PROCEEDINGS**

1. On Thermosolutal Convection in Micropolar Fluid in Porous Medium: Soret- Dufour Phenomenon (Jointly with Nidhi Goyal), AIP (American Institute of Physics) Conf. Proc. 1453,197 – 202; doi: 10.1063/1.4711175, 2012.
2. Soret Dufour Driven Thermosolutal Convection in Micropolar Rotating Fluids in Hydromagnetics in Porous Medium (Jointly with Nidhi Goyal), Proceedings of 57 Congress of ISTAM, 211-217, 2012.

### **MAJOR REASERCH PROJECT (UGC)**

Stability Analysis of Convective Transport in Nanofluids

### **LIST OF AWARDED / REGISTERED RESEARCH SCHOLARS**

<b>Name</b>	<b>Title of the Thesis</b>	<b>Status</b>
1. Anshu Agrawal	Hydrodynamic and Hydromagnetic Stability of Flows through Continuous and Porous Media	<b>Awarded (2004)</b>
2. Uday Singh	Fourier Approximation in $L_p$ ( $p>1$ ) Spaces Using Summability Techniques	<b>Awarded (2006)</b>
3. Vikrant	Stability Analysis of Some Multiparametric Flow Problems	<b>Awarded (2013)</b>
4. Nidhi Mittal	Linear Stability Analysis of Fluid Flows through Porous Media	<b>Awarded (2013)</b>
5. Vipin Tyagi (External)	Stability Analysis of Flows through Porous Media–A Linear Approach	<b>Awarded (2013)</b>
6. Reema Singh	The Onset of Monodiffusive and Double diffusive Nanofluid Convection in a Darcy-Maxwell Fluid	Registered (2013)

## **M. PHIL. PROJECTS SUPERVISED**

1. "Stability of Some Rivlin-Ericksen Fluids" by Nikhil Kumar (2004).
2. "Sir Issac Newton: Man, Myth and Discoveries" by Sanjay Kumar (2005).
3. "Hydrodynamic Rayleigh Taylor Instability of Some Non-viscous and Viscous Fluid Layers" by Pitam Singh (2005).
4. "Analysis of Some Flows with Permeability Variations" by Dheerendra Kumar (2005).
5. "Stability Analysis of Some Couple Stress Fluids" by Amit Kumar (2005).
6. "Stability Analysis of Some Multiparametric Flow Problems" by Vikrant (2006).
7. "Behaviour of Perturbations on the Flow of Newtonian and Non-Newtonian Fluids" by Sharad Kumar (2006).
8. "Sheared and Non-sheared Flow Instability of a Continuous and Saturated Fluid" by Meenakshi (2006).
9. "Analysis of the Growth of Perturbations on Time Independent Basic Solutions of Some Newtonian and non-Newtonian Fluids" by Rajeev Kumar (2007).
10. "Stability Analysis of Two Superposed Fluids in the Presence of Dust Particles" by Sanjay Kumar (2007).
11. "Behaviour of Perturbations in Reference to the Stability of Two Superposed Non-Newtonian Fluids by Pooja Khandelwal (2007).
12. "Stability Analysis of Some Ferromagnetic Fluids" by Manoj Kumar (2009).
13. "Ferrothermohaline Convection" by Narendra Kumar (2009).
14. "Thermo Diffusion and Diffusion Thermo Effects on Convective Instabilities" by Vijendra Singh (2009).
15. "Stability Analysis of Darcy Maxwell Fluid" by Neeraj (2009).
16. "Ferroconvective Instability of a Layer of Fluid" by Sudeep Singh (2009).
17. "Stability Analysis of Mono and Double Diffusive Convection" by Harsh Kumar (2010).
18. "On the Onset of Convection in Visco-elastic Fluids Heated from below" by Shikha Gupta (2010).

19. "Study of Some Two-Warehouse Inventory Model" by Sandeep Kumar (2011).
20. "Linear and Non-linear Stability Analysis of Some Double Diffusive Convection" by Arjun (2011).
21. "Effect of Magnetic Field Dependant Viscosity on Ferroconvection in a Flat Fluid Layer" by Sapna (2011).
22. "The Onset of Monodiffusive and Double Diffusive Nanofluid Convection Saturated in a Porous Medium" by Kavita (2011).
23. "Double Diffusive Convection in a Couple Stress Fluid" by Poonam (2013).
24. "Stability Analysis of Newtonian Fluid through Anisotropic Horizontal Porous Medium" by Sarika (2013). "Analysis of Convective Stability of Nanofluids" by Ram Kishore (2013).
25. "Rayleigh-Benard Convection in Nanofluid" by Arun Kumar (2013).

## **ADMINISTRATIVE ASSIGNMENTS**

- ❑ Asstt. Proctor: Ch. Charan Singh University, Meerut from March 2003 to April 2004 and from April 2007 to January 2013.
- ❑ Member 'Women Wing'.
- ❑ Member 'Girl's Hostel Committee'.
- ❑ Asstt. Warden, Durga Bhabhi Girls' Hostel, Ch. Charan Singh University, Meerut from 2006 to 23 Sep. 2008.
- ❑ Warden, Durga Bhabhi Girls' Hostel, Ch. Charan Singh University, Meerut from 24 Sep. 2008 till date.
- ❑ Member "Women Cell" of Ch. Charan Singh University, Meerut from Dec 2008 to 2012.