BIO - DATA

Name: Dr. Veena Sharma

Address (Residential): Set No.3, Block No. I Teachers Colony, HPU Campus, Shimla-5

Designation: **Professor & Chairperson**, **Deptt. of Mathematics & Statistics , HP University, Summer Hill, Shimla– 171005**

Date of Birth: 15-05-1962

Area of Specialization: **Fluid Dynamics**

Academic Qualifications:

Exam Passed	Board/ University	Subjects	Year	Division/Grade Merit etc.
High School	**Punjab Board of School Education**	**Eng., Maths, Hindi, S.Studies, Sciences, Pbi,Drawing,P.Ed.**	**1977**	**1st Division with Distinction and in Merit list of Board**
Higher Secondary/ Pre-Degree P.U.C.	**Punjab Board of School Education**	**Maths,Physics, Chemistry,English**	**1978**	**1st Division with Distinction in Maths and in merit list of Board**
Bachelor's Degree (s) B.SC.	**H.P. University**	**Maths,Physics, Chemistry,**	**1981**	**1st Division and 10 position in HPU**
Master's Degree (s) M.Sc.	**H.P. University**	**Mathematics**	**1983**	**1st Division and 2 position in HPU**

Research Degree(s) Other (Diplomas/Certificates etc.) M.Phil	H.P. University	Mathematics	1986	1st Division and gold Medal
Ph.D	H.P. University	Mathematics	1991	Newtonian and Viscoelastic Fluid Instabilities

Research Experience and Training:

	Title of Work/Theses	University where the work was carried out
M.Phil or Equivalent	**Some Problems Of Creep Transition in Orthotropic Shell**	**H.P. University**
Ph.D.	**Newtonian and Viscoelastic Fluid Instabilities**	**H.P. University**

LIST OF STUDENTS WHO COMPLETED Ph.D

Sr.No.	Candidate	Title	Year
1.	Sumit Gupta	Some instabilities in micropolar and non-Newtonian fluids	2009
2.	Priti Bala	On some linear instability problems in newtonian and non-newtonian fluids in porous and non-porous medium	2013
3	Radhe Shyam	On some problems in Newtonian and Non- Newtonian fluids in porous medium	2014
4	Renu Kumari	Linear Stability Problems In Newtonian and Non-Newtonian Fluids	2016

LIST OF STUDENTS who Completed M.Phil

1.	Gagan	Stability of Stratified rotating viscoelastic Rivlin-Ericksen fluid in the presence of variable magnetic field.	2009
2	Anupama	The onset of thermal convection in a triply diffusive three dimensional fluid layer	2009
3.	Monika Sharma	The onset of thermal convection in a triply diffusive rotating fluid layer	2009
4.	Anukampa Thakur	Instabilities of Stratified Viscoelastic Fluids	2010
5.	Radhe Shyam	Thermosolutal convection in Rivlin-Ericksen Compressible Fluids in Porous Medium	2010
6.	Renu Kumari	The onset of thermal convection in a triply diffusive rotating fluid layer in Hydromagnetics	2011
7.	Sada Ram	Some instabilities of stratified viscoelastic fluids in Hydromagnetics	2011
8.	Shaloo Devi	Numerical investigations of stability of stratified viscoelastic Oldroyd-B fluid in the presence of variable magnetic field	2012
9.	Anuradha Chowdhary	Numerical investigations of oscillatory motions of rotating viscoelastic nanofluid layer heated from below	2012
10.	Banita Thakur	Influence of third diffusing component upon the onset of convection in three dimensional fluid layer in porous medium	2013
11.	Tara Khachi	On the criterion for thermal stability of a layer of ferromagnetic viscoelastic fluid saturating a porous medium embedded by suspended particles	2014
12.	Suman Kumari	The onset of convection in rotating viscoelastic nanofluid layer saturating porous medium :Darcy-brinkman model	2015

Awarded H.P.U. merit wise Scholarship in 1981-83.

Awarded Gold medal in M. Phil. (Mathematics) in 1986.

Awarded UGC Research fellowship in 1986 (for the first time in the department).

Awarded H.P.U Best Researcher in 2016

Awarded **Women Achievers Award** on International Women Day (8th March,   2016) by the centre for Women's Studies and Development Himachal Pradesh University Shimla - 171005

Research Projects:

Title of the Project	Name of the Funding Agency	Duration	Designation
Numerical investigations and simulations on stability problems in non-Newtonian nanofluids	UGC New Delhi	3 years	Sectioned
Stability analysis of nanofluids: analytical & numerical investigations	CSIR New Delhi In collaboration with Prof. Urvashi Gupta ,Dr. S.S.B.I.C.E. Panjab Un	3 years	Sectioned

I. Teaching Experience:

Courses Taught	Name of the University/ College / Institution	Duration
U.G.	GGDSD College Baijnath Himachal Pradesh India	**One academic session (1984-1985)**
M.Sc. mathematics	Himachal Pradesh University, Shimla	1992- till date
M.Phil/Pre-Ph.D, Mathematics	Himachal Pradesh University, Shimla	1992- till date
Any Other:		
Mathematics for Bio Sciences, Basic Mathematics for Chemistry & MBA etc.	Himachal Pradesh University, Shimla	1992- 2001

Total Teaching Experience : 23 years & 6 months	

a) Under-graduate (Pass) :   One year
b) Under-graduate (Hons) :   ---

c) Post-graduate   :   **23 years & 6 months**

Innovations/Contributions in Teaching

a. Design of Curriculum

Designed B.A./B.Sc. (Mathematics),M.A./M.Sc. courses

b. Teaching Methods

Using lecture methods explaining everything on Black Board, Asking questions in the class-room and solving their question problems and quires in the extra time. Planned and designed lecture materials citing examples in Real Analysis I, II and MHD and Numerical Mathematics.

c. Laboratory Experiments

Research scholars were made aware to use Scientific Language Fortran 95, Mathematica Version-5.2, Galerkin Finite Element Method, Runge- Kutta- Gill method for their research work for numerical computations.

d. Evaluation Methods

Evaluated students by asking questions and by taking class tests.

e. Preparation of Resource Material Including Books, Reading Materials,

Laboratory Manuals etc.

Distributed lectures prepared in the subjects Real Analysis-I &II, M.H.D-I&II to M.A./M.Sc. students.

f. Remedial Teaching/Student Counseling (Academic)

Involved in student counseling and remedial teaching of students who are weaker in the subject and providing guidance to the students regarding fellowships and further career in mathematics and preached /motivated the students regarding UGC/NET.

List of Research Paper Published in Reputed Journals

1. **Veena Sharma** and Sanjeev Kumar, "Effect of Suspended Particles on thermal convection in a viscoelastic Walters' (Model B') fluid in Hydromagnetics" Jñanabha, **39,** 171-181, (2009) India. **I.F- 0.922**
2. **Veena Sharma** and Urvashi Gupta, "Stability of Stratified elastic-viscous Walters'(Model B') fluid in the presence of horizontal magnetic field and rotation" .Studia Geotechnica et Mechanica, Vol XXXII.2, 41-53,2010. (Poland). **I.F- 0.818**
3. G. C. Rana, **Veena Sharma** and Sanjeev Kumar, "Stability of incompressible Rivlin-Ericksen elastico-viscous superposed fluids under rotation in porous medium." Journal of Computed Mathematical Sciences. Vol. **2**, issue 2, 316-321 (2011) INDIA. **I.F- 0.676**
4. G. C. Rana., **Veena Sharma** and Kumar S**., "**Stability of incompressible Rivlin-Ericksen elastic-viscous superposed fluids in the presence of Uniform horizontal magnetic field in porous medium." J. of Applied Math. and Fluid Mechanics .Vol. **2,** 41-47 (2011) INDIA. **I.F- 0.381**
5. **Veena Sharma** and G. C. Rana**, "**Thermal convection in Walters' (Model B') rotating fluid permitted with suspended particles and variable gravity field in porous medium in Hydromagnetics- Int. J. of Appl. Engineering Research, Vol.**2**, 390-405, (2011) INDIA. **H Index-9, SJR-0.13**
6. G. C. Rana and **Veena Sharma, "** Hydromagnetic Thermosolutal instability of Walters' (Model B') rotating fluid permeated with suspended particles in porous medium."Int. J. of Multiphysics, Vol. **5**, No. 4, 325-338. Doi: 10.1260/1750-9548.5.4.325, (2011) U. K. **I.F- 0.30**

7. **Veena Sharma** and Sudrshna Sharma, "Numerical investigations of thermal convection in rotating micropolar fluids in hydromagnetics saturating a porous medium." Journal of International Academy of Physical Sciences.Vol. **15**, 147-160 (2011). **I.F- 0.37**

8. **Veena Sharma** and Renu Kumari, "The onset of thermal instability in a triply diffusive rotating fluid layer in Hydromagnetics". Proceedings of IIEM. 235-241, (2012) India.

9. **Veena Sharma,** Shaloo Devi and Sudrshna Sharma , " Numerical investigations of stability of stratified viscoelastic Oldroyd fluid in the presence of variable magnetic field." Proceedings of IIEM. 248-251, (2012), India.

10. **Veena Sharma**, Priti Bala, Sumit Gupta and Radhe Shyam , "The onset of thermal instability in a triply diffusive three dimensional fluid layer in porous medium.". Research Journal of Engineering and Technology. **3**, issue 02. 152-160, (2012), India.

11. G. C. Rana**., Veena Sharma** and Kango S. K**.,** G. C. Rana. and **Veena Sharma, "** Effect of rotation on the onset of convection in Rivlin-Ericksen fluid heated from below in a Brinkman porous medium, IJFMR, 39(6), 467-477,doi: 10.1615**/** Inter J Fluid Mech Res. **39**.i6.10. (2012) USA. **I.F- 0.28**

12. **Veena Sharma**, Rajneesh Kumar and Ibrahim A. Abbas, "A numerical study of free convection heat and mass transfer in a Rivlin-Ericksen viscoelastic flow past an impulsively started vertical plate with variable temperature and concentration. International Journal of Heat and Fluid Flow.(2013) http://dx.doi.org/10.1016/. **I.F-2.11**

   ➢ **This paper has been awarded $600 by the University of South Arabia as one of the best paper in 2014**

13. **Veena Sharma**, Rana G. C., "Stability of Stratified Rivlin-Ericksen Elastico-Viscous Fluid permeated with suspended particles and uniform horizontal magnetic field in Stratified Porous Medium. JIMS, 80, 173-182, (2013) India. **I.F- 0.24**

14. **Veena Sharma** ,Rajneesh Kumar, Ibrahim A. Abbas, and Radhe Shyam , " A Finite Element Study of Unsteady Free Convection Heat and Mass Transfer in a Walters-B Viscoelastic Flow past a Semi-Infinite Vertical Plate". Journal of Computational and Theoretical Nano science (2013). **I.F- 1.032**

15. **Veena Sharma**, Priti Bala and Sumit Gupta, "The onset of thermal convection in a triply diffusive three dimensional fluid layer saturating porous media in the presence of rotation." proceedings of PFMFP (2013) India.

16. **Veena Sharma**, Renu Kumari and Abhishek Sharma, "Onset of thermal convection in rotating viscoelastic nanofluid layer saturated by a Darcy-Brinkman porous medium." proceedings of FMFP (2013) India.

17. **Veena Sharma**, Radhe Shyam and Abhishek Sharma, "On the criterion for stability of a layer of ferromagnetic viscoelastic fluid heat from below saturating a porous medium." proceedings of FMFP (2013) India.

18. **Veena Sharma**, Anuradha Chowdhary, Renu Kumari, "Oscillatory motions of a rotating viscoelastic nanofluid layer in natural convection." International Journal of Fluid Mechanics Research Vol. 41. no.2 or 3, (2014) U.S.A. **I.F- 0.28**

19. **Veena Sharma**, Radhe Shyam and Sudrshna Sharma, " Numerical investigations of stability of stratified viscoelastic Walters' (model B') fluid/plasma in the presence of quantum physics saturating a porous medium." Journal of Porous Media Vol. 7, 14 (2014) California. **I.F-1.26**

20. **Veena Sharma**, Radhe Shyam, Sudrshna Sharma and Abhishek Sharma, "Effect of surface tension on the Kelvin-Helmholtz instability of superposed viscous fluids in hydromagnetics saturating porous medium." International Journal of Technology. Vol.4, 1, 234-239 (2014) Nagpur, India. **H Index-3**, **SJR- 0.14**

21. **Veena Sharma,** Rajneesh, Shaloo Devi, "A Problem of thick circular plate in modified couple stress thermo elastic diffusion with phase – lags" Multidiscipline Modeling in Materials and Structures (2015). **I.F- 0.32**

22. **Veena Sharma,** G.C. Rana, R. Chand**,** "The Onset of electro hydrodynamic instability of a rotating viscoelastic fluid layer saturating a porous medium, Acta Tehnica, Vol.60, 2015,Czechoslovakia. **I.F- 0.22**

23. **Veena Sharma** ,G.C. Rana and R. Chand**,** "The effect of rotation on the onset of electro hydrodynamic instability of an elastico-viscous dielectric fluid layer" Bulletin of Polish Academy of Sciences-Technical Science,Vol.64, No.1, 2016, Poland. **I.F-0.914**

24. **Veena Sharma,** G.C. Rana and R. Chand**,** "Thermal Instability of Rivlin-Ericksen Nanofluid Saturating a Darcy-Brinkman Porous Medium" A More Realistic Model, Engineering Transactions, Vol.64, No.3, 271-286,2016, Poland. **I.F- 0.56**

25. **Veena Sharma,** Rajneesh Kumar and Shaloo Devi, "Stability of Stratified viscoelastic Rivlin-Erickson (Model) Fluid/Plasma in the presence of Quantum physics saturating a porous medium" Material Physics and Mechanics Vol. 24 (2015), 145-153. **I.F- 0.33**

26. **Veena Sharma** and Renu Kumari, "Overstable Convection in rotating viscoelastic nanofluid layer by a Darcy-Brinkman porous medium embedded by dust particles" Journal of Rajasthan Academy of Physical Sciences Vol.14, no.3&4 (2015), 295-308.

27. **Veena Sharma,** Gian Chand Rana and Ramesh Chand**,** "Onset of electrohydrodynamic instability of a rotating viscoelastic fluid layer saturating a

porous medium" Journal of Institute of Thermodynamics CAS, v.v.i., Acta Technica Vol. 61 (2016), 31- 44.

28. **Veena Sharma ,** Renu Kumari, "Stability of Stratified Visco-elastic Walters' (Model B) fluid/plasma in hydromagnetics in presence of quantum physics " A Bi – annual Multi- disciplinary Research Journal of Himachal Pradesh University Vol. 03, No. 02, Dec. 2015 ,61-71.

29. **Veena Sharma ,** Sumit Gupta and Abhishek Sharma , "Thermal Convection of micropolar Fluid in the presence of suspended particles in Hydromagnetics in Porous Medium " A Bi – annual Multi- disciplinary Research Journal of Himachal Pradesh University Vol. 03, No. 02, Dec. 2015 ,115-132.

30. **Veena Sharma ,** G.C. Rana, R.Chand and S.K. Kango , "Thermal instability in a porous medium layer saturated by a Viscoelastic fluid in electrohydrodynamics :Brinkman Model" A Bi – annual Multi- disciplinary Research Journal of Himachal Pradesh University Vol. 03, No. 02, Dec. 2015 ,188-203.

31. **Veena Sharma,** U. Gupta, J. Sharma, "Instability of binary nanofluids with magnetic field" Appl. Math. Mech. – Engl. Ed., Vol. 36(6), 693-706 (2015).

32. **Veena Sharma,** G.C. Rana, and R.Chand, "Thermal Instability of a Rivlin-Ericksen Nanofluid Saturated by a Darcy – Brinkman Porous Medium: a More Realistic Model" Engng. Trans., Polish Academy of Sciences, Institute of Fundamental Technological Research (IPPT PAN) ,National Engineering School of Metz (ENIM), Poznam University of Technology , Vol. 64,No. 3, 271-286, 2016.

List of research paper Published in Peer Revised Proceeding of Conferences

1. **Veena Sharma** and Kamal Kishor "Effect of uniform Magnetic Field on the stability of stratified Rotating Rivlin-Ericksen fluid." Published in the proceedings of the International Conference on Computing, 269-273(2010) Printed at Eashwar Publications Publisher of Quality Research Journals, New Delhi.

2. **Veena Sharma** and Radhe Shyam, "Thermal convection in a viscoelastic ferromagnetic fluid saturating a porous medium. Proceedings of National Conference on IIEM. "242-247(2012), India.

3. **Veena Sharma**, Priti Bala and Jyoti Gupta, "Numerical investigations of instability of superposed viscous and viscoelastic fluids in two dimensional magnetic field through a porous medium." Proceedings of NationaL Conference on AMA. 144-150. (2013).

4. Anil Kumar, **Veena Sharma** and Radhe Shyam Numerical investigations of stability of Walters' (Model B') superposed fluids in porous medium in

Hydromagnetics. Proceedings of NationaL Conference on AMA. 139-143. (2013).

List of Chapters Published in Book

1. **Veena Sharma,** Radhe Shyam, Abhilasha and Sudrshna Sharma, "On the Criterion for the Stability of a Layer of Rotating Ferromagnetic Viscoelastic Fluid Heated from Below Saturating in a Porous Medium" pp. 91-108.

2. **Veena Sharma,** Renu Kumari and Shalini Garga, "Overstable Convection in Rotating Oldroydian Nanofluid Layer Saturated a Darcy-Brinkman Porous Medium Embedded By Dust Particle" pp. 149-164.

3. **Veena Sharma,** Shaloo Devi, Sumit Gupta and Abhishek Sharma, "Investigations of character of the equilibrium of Stratified Viscoelastic Oldroyd-B fluid in Hydrodynamics Saturating a Porous Medium" pp. 165-178.

4. **Veena Sharma,** Priti Chowdhary, Sumit Gupta and Abhishek Sharma, "Stability of Stratified Viscoelastic Oldroyd-B Fluid in the Presence of Suspended Particles and Variable Magnetic Field Saturating Porous Media" pp. 265-282.

5. **Veena Sharma**, Renu Kumari and Sudrshna Sharma. "Numerical overstable investigations of thermal instability in a triply diffusive rotating fluid layer in the presence of suspended particles saturating a porous medium." Proceedings of NationaL Conference on AMA. 151-162 (2013).

Seminars, Conferences, Symposia Workshops etc. Attended:

1. Attended and presented the research paper entitled "Thermal convection of micropolar fluids in the presence of suspended particles in hydromagnetics" in the 18th International Conference of Interdisciplinary Mathematics on Interdisciplinary Mathematical & Statistical Techniques (IMST 2009 – FIM XVIII) organized by Department of Mathematics JUIT, Waknaghat, HP, held on August 2-4, 2009.

2. Attended and organized National Seminar on Continuum Mechanics and Algebra in the Deptt. Of Mathematics & Statistics, HP University Shimla, under UGC SAP w.e.f. August, 7-8 2009.

3. Participated in the Workshop on Women and Stress organized by Centre for Women's Studies and Development, HPU Shimla on March 8, 2010.

4. Attended Workshop on Symbolic Computation and use of Mathematica in Continuum Mechanics and Algebra organized by Deptt. Of Mathematics & Statistics, HP University, Shimla under UGC SAP w.e.f. 15 – 20 March, 2010.

6. Participated and presented a research paper entitled, "The Influence of Third Diffusing Component upon the Onset of Convection in Three Dimensional Fluid Layer in Porous Medium" in National Seminar on Recent Developments in Fluid Dynamics organized by Deptt. Of Mathematics University of Rajasthan, Jaipur w.e.f. August 7-8, 2010.

7. Participated and presented a research paper entitled, "Thermosolutal Instability in Elastico-viscous Walters'(Model B') Fluid" in the International Conference on Polymer Science and Engineering: Emerging Dimensions PSE-2010 Organized by University Institute of Chemical Engineering &Technology, Panjab University, Chandigarh on Nov. 26-27, 2010.

8. Participated and presented a research paper entitled , "Effect of uniform magnetic Field on the stability of stratified rotating rivlin-ericksen fluid saturating a porous medium" in the 12th International Conference of International Academy of Physical Sciences (CONIAPS XII) on Emerging Interfaces of Physical Sciences organized by University of Rajasthan, Jaipur on Dec22-24, 2010.

9. Participated and presented a research paper entitled, "Thermosolutal convection of micropolar fluids in the presence of suspended particles" in the 55th Congress of Indian Society of Theoretical and Applied Mechanics organized by Department of Mathematics NIT Hamirpur on Dec 18-21.2010.

10. Participated and presented a research paper entitled, "Effect of uniform Magnetic Field on the stability of stratified Rotating Rivlin-Ericksen fluid" in the International Conference on Computing organized by Advanced Computing Research Society at IDSA, New Delhi on 27th-28th Dec.2010.

11. Participated in the Workshop on Women: Diet, Health and Diseases organized by Centre for Women's Studies and Development at H.P.University Shimla on 8th March 2011.

12. Delivered an invited talk on "Polymerisation of nanofluids" and chaired a session in the National Seminar on Recent Trends in the Mechanics of Fluids & Solids organized by Dept. of Mathematics, Govt. Degree College Haripur (Manali) Himachal Pradesh on March 10-11, 2012.

13. Delivered an invited talk on "Application of a Finite Element Method to study heat/mass transfer in fluid flow problems" and chaired a session in the National Seminar on Recent Trends in the Mechanics of Fluids & Solids organized by Dept. of Mathematics, Govt. Degree College Haripur (Manali) Himachal Pradesh on March 10-11, 2013

14. Delivered an invited talk on "Rayleigh-Taylor Instability" and chaired a session in the National Conference on Advanced in Mathematics and its Applications, at National Institute of Technology, Hamirpur Himachal Pradesh, India on June 25-27, 2013.

15. Delivered an invited talk on "Numerical investigations/simulations of non-Newtonian superposed fluid instabilities in hydromagnetics" and chaired a session in the International Conference on

Advances in Pure & Applied Mathematics organized by Dept. of Mathematics, Govt. Degree College Haripur (Manali) Himachal Pradesh on March 07-09, 2014.

16. Delivered an invited talk and chaired one session in 17th International Conference of International Academy of Physical Sciences organized by Jaipur (2015) organized by University of Rajasthan Jaipur & St. Wilfred's P.G. College Mansarovar, Jaipur.

17. Invited as a Guest of Honour and delivered an invited talk in a National Seminar On "Advances in Applied Mathematics and Mechanics" (NSAAMM-2015) 12-13 March, 2015 (Sponsored by University Grant Commission, New Delhi) Organized by Department of Mathematics, Sidharth Government College Nadaun Dist.- Hamirpur .

18. Attended a National Seminar on Text Equality.

19. Participated in run-for on International Yoga – day on 21 June 2015 organised by H.P.University Shimla.

20. Organized A Special Session and has presented two Talks entitled " Numerical Study of Magneto – thermal Convection of Ferromagnetic Fluids in the Presence of Hall Currents in a Porous Medium " and " A Numerical Study of Free Convection Heat and Mass Transfer in a Rivlin-Ericksenian Viscoelastic Flow Past an Impulsively Started Vertical Plate with Variable Temperature and Concentration" at the 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications w.e.f. July 1- July 5, 2016 at Orlando, Florida, USA.

21. **The research paper and title "A numerical study of free convection heat and mass transfer in a Rivlin-Ericksenian Viscoelastic Flow Past an Impulsively Started Vertical Plate with Variable Temperature and Concentration" has been declared as an excellent fit for the upcoming "Global Summit and Expo on Fluid Dynamics and Aerodynamics" during August 15-16,2016 at London, U.K a leading conference for researchers, scientists and educators through invited plenary lectures, symposia, workshops, invited sessions, oral presentations and poster sessions of unsolicited contributions.**

- **Organized and Co-ordinated two Refresher Courses in Mathematics & Statistics, viz. RC-254 w.e.f. 16.07.2012 to 04.08.2012 and RC-265 w.e.f. 24.06.2013 to 13.07.2013.**
- **Delivered lectures in Refresher Course in Mathematics & Statistics organized by ASC H.P.U. Shimla.**
- **Delivered lectures in Refresher Course in Mathematics organized by ASC KU Kurukshetra, Haryana.**
- **Refreed various research paper of International / National Journals of repute.**

(Veena Sharma)