

## **CURRICULUM VITAE**

**Name** : **Mrs. Rama Bhargava**  
**Date of Birth** : 01-09-1955  
**Present Address** : Department of Mathematics, I.I.T. Roorkee, Uttarakhand  
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**Permanent Address** : Bhargava Nursing Home, Ganeshpur, Roorkee 247667.  
**Present Post** : **Professor (Ex Head), Department of Mathematics,  
and Head, QIP Centre I.I.T. Roorkee.**  
**Broad Field** : **Mathematics and Computer Applications**  
**Field of Specialization :** Computational Fluid Dynamics, Finite Element,  
**/ Interest** Meshfree methods, Computer Graphics and Biomathematics.

### **Academic Qualifications (from High School)**

Degree	Univ./Board	Year	%age	Distinction
High School	UP Board	1969	I – 71 %	-
Intermediate	UP Board	1971	I – 70%	National Scholarship
B. Sc.	Meerut University	1973	I – 88 %	VII <sup>th</sup> Rank in the University
M. Sc.	University of Roorkee	1975	I – 93 %	Topped all PG Students and won Chancellor's Gold Medal and six other Medals
PhD	Do	1978	-	-

**Research Experience** : 34Years  
**Teaching Experience** : UG classes – 32Years.  
PG classes – 32Years. (M.Sc., MCA, M.Tech.) with experience on teaching vast variety of courses.  
**Short Term Courses Conducted** : Course on Numerical Analysis and Computer Application for Teachers of various Colleges.  
**Present Research activities** : Supervising five students for Ph. D. on **Computational fluid dynamics** and one on **Computer Graphics**

### **Courses Developed :**

1. Discrete Mathematical Structures for UG & PG classes.
2. Finite Element Method for UG classes.
3. Computer Graphics & Discrete Mathematics for MCA classes.

**Passion:** For developing awareness and implementing mathematics for society and other sciences.

## **NATIONAL AND INTERNATIONAL AWARDS**

1. Was awarded **INSA EXCHANGE AWARD** for UK 2009-10
2. Was awarded **AUSTRALIAN ENDEAVOUR EXECUTIVE AWARD** in 2008-09.
3. In 2001, was awarded **Khosla Silver medal** by IIT, Roorkee on two research papers.
4. In 2000 and 2007, was considered as **International women of the year**.
5. In 1983, was awarded **DAAD SCHOLARSHIP** for pursuing research in Institute for stromugsmechnc DFVLR-AVA Gottingen, Germany.
6. In 1979, was selected for “**INDIAN ADMINISTRATIVE SERVICES**”.

### **In M.Sc. (At University of Roorkee)**

- a) **CHANCELLOR's GOLD MEDAL** for Best Student in M.Sc./M.Tech.
  - b) Dr. G. Pande **Silver** medal for best Girl student in M.Sc./M.Tech.
  - c) University **Gold** medal for standing first in class.
  - d) A. N. Khosla **Gold** Medal for getting maximum marks in M.Sc./M.Tech. courses.
  - e) G. Pande **Silver** medal for getting maximum marks in M.Sc./M.Tech. previous exam.
7. **In B.Sc. (Meerut University)**
    - a) VII<sup>th</sup> Rank in the University.
    - b) Bursary scholarship holder.
    - c) Topped in College and won many Gold medals.
  8. **National Scholarship** holder

## **ADMINISTRATIVE ACHIEVEMENTS**

1. Member of **Board of Governors**, IIT Roorkee from 1.01.2014
2. **Currently Head, QIP centre IIT Roorkee**
3. **Head of the Department of mathematics** from 1.1.2009 -31<sup>st</sup> Dec. 2011.
4. **Chairperson** of International Conference on Advances in Modeling, Optimization and Computing to be held at IIT Roorkee, Dec 5- 7, 2011.
5. **Chairperson** of the DST Sponsored National meet of Research Scholars from 19th-23rd Dec. 2009.
6. **Chairperson** of SGMIP 2009 at IIT Roorkee from 16<sup>th</sup>-21<sup>st</sup> march 2009 with OCCAM UK.
7. **Chairperson** of the National conference on Biomechanics at IIT Roorkee from 7-8<sup>th</sup> march 2009
8. **Organizing secretary** of the INDO AUSTRALIAN WORKSHOP on CFD to be held at IIT Roorkee 12-14<sup>th</sup> April 2007.
9. **Organized a session as CO CHAIR** on Micropolar flows and Applications in 15<sup>th</sup> International conference of mechanics in Medicine and Biology at **Singapore** in Dec. 2006.
10. **Chairperson** of Research Committee(DRC) at the Deptt (March 2006-2008)
11. **Organizing Secretary** of 71<sup>st</sup> conference of Indian Mathematical society at IIT Roorkee in Dec. 2005
12. **Chairperson** Undergraduate Committee (DUGC) from 2004-2006

## **OTHER ACHIEVEMENTS**

1. Visited Toronto and MUN St. Johns for presentation and interaction in June 2014
2. Visited USA in July, 2011 in connection with technical discussion and **chairing a session at Las Vegas.**
3. Member of the committee of **AICTE** for up gradation of Syllabi for Vocational education,(2011)
4. Visited **San Francisco USA** from Oct 9-10, 2009 for presenting the paper.
5. Visited **MIT USA** from June 12<sup>th</sup> – 15<sup>th</sup> 2007 for presenting a research paper and discussion.
6. Was awarded a project from **ISRO** for three years starting from March 2007 worth Rs 11.15 Lakhs.
7. Visited **Munich Germany** in Aug 2006 to present a paper in 5<sup>th</sup> world congress in biomechanics.
8. Visited **AUSTRALIA** for presenting paper in 5<sup>th</sup> International congress on Industrial and Applied Mathematics in July 2003.
9. Represented IIT ROORKEE in the Five nations Partnership Programme at **INDONESIA** in 2002 in INDUSTRIAL MATHEMATICS.
10. Being paper setter of many national entrance examinations of various services including **IAS and Public Service commissions**
11. Published more than 140 research papers in international journals and conferences.
12. Member of **BOS** and other committees of Many Universities/Institutes
13. Already guided 11 students for Ph.D. and 67 students for PG projects/ dissertations.
14. Delivered many **Invited Talks** and **Keynote talks** at Different Conferences/Symposiums.
15. Working in Collaboration with **Prof. O.A.Beg, University of Sheffield, UK.**
16. **Member of North zone library committee of NBHM**

## **PROJECTS**

1. One minor research project completed--- sponsored by UGC.
2. One project entitled 3-D reconstruction for City modeling completed-- sponsored by ISRO(2011)
3. One project on FE modeling and Symbolic Computations sponsored by DST (2014)

## **SOME SPECIAL LECTURES**

1. Role of Mathematics in scientific research—Keynote lecture
2. Exploring the potential of Mathematics---- through the Society for Promotion of Science and Technology
3. Computing Mathematics- Past and Present-- as Keynote **speaker.**
4. **P L Bhatnagar award lecture in IMS in December 2011.**
5. Meshfree methods: A New Computational Approach --- Keynote lecture
6. Computational Fluid Dynamics- a present scenario.--- Keynote lecture

## LIST OF PUBLICATIONS

### A List of Publications in Journal:

1. **Bhargava. R.**, Agarwal R.S., Unsteady flow past flat plate by finite difference method: *Ind. J. Pure and Appl. Math.*, Vol. 9, No. 8, **1978**.
2. **Bhargava. R.**, Agarwal R.S., Fully developed free convection flow in a circular pipe: *Ind. J. Pure and Appl. Math.*, Vol. 10, **1979**.
3. **Bhargava. R.**, Agarwal R.S., Application of Quasilinearization to the problem of free convection flow between vertical parallel plates: *J. Math. Phy. Sci.*, Vol. 13, **1979**.
4. **Bhargava. R.**, Agarwal R.S., A study of viscous flow between porous discs through parameter differentiation: *Ind. J. Pure and Appl. Math.*, Vol. 11, **1980**.
5. **Bhargava. R.**, Agarwal R.S., Numerical computation of flow and heat transfer from an enclosed rotating disc with suction and injection: *Def. Sci. Jour.*, Vol. 30, No. 2, pp75-82, **1981**.
6. **Bhargava. R.**, Agarwal R.S., Numerical solution to natural convection in a channel with porous walls under a transverse magnetic field: *J. Aero. Soc. India*, **1981**.
7. Unsteady flow in open channels: *Pure and Appl Math. Sci.*, Vol. 5, **1979**.
8. **Bhargava. R.**, Rani M., MHD flow and heat transfer in a channel with porous walls of different permeability: *Ind. J. Pure and Appl. Math.*, Vol. 15, **1984**.
9. **Bhargava R.** and Rani M., Numerical solution of heat transfer in micropolar fluid flow in a channel with porous walls, *International J. Engg. Sci.*, Vol. 23, **1985**.
10. **Bhargava R.** and Rani M., Heat transfer in micropolar boundary layer flow near a stagnation point, *Int. J. Engg. Sci.*, Vol. 23, **1985**.
11. Agarwal R. S., **Bhargava R.** and Balaji A. V. S., Finite element solution of flow and heat transfer of a micropolar fluid over a stretching sheet: *Int. J. Engg. Sci.* 27 (1989) 1421-1428.
12. **Bhargava R.**, Agarwal R. S and Balaji A. V. S., Numerical solution of flow and heat transfer of micropolar fluid at a stagnation point on a porous stationary wall: *Ind. J. Pure and Appl. Math.*, Vol.21, **1990**.
13. R. S. Agarwal, **Rama Bhargava** and A. V. S. Balaji., Finite element solution of nonsteady three dimensional micropolar fluid flow at a stagnation point: *Int Journal of Engg Sci*, Volume 28, Issue 8, **1990**, Pages 851-857 .
14. **Rama Bhargava** and A. V. S. Balaji., Nonsteady plane stagnation point flow of a micropolar fluid with hard blowing: *ZAMM*, Vol. 75, **1995**.
15. H. S. Takhar, R. S. Agarwal, **R. Bhargava** and V. M. Soundalgekar., Flow of a micropolar fluid past a decelerating porous rotating disc: *Int. J. nonlinear Mech.* Vol. 30, pp 295-304, **1995**.

16. **R. Bhargava**, Aggarwal. R.S & H. S. Takhar., The squeezing of micropolar fluid between two plates: *Journal of Appl. Mech. And Engg.*, Vol.2, No.3, pp369-377, UK, **1997**.
17. **R. Bhargava**, H. S. Takhar., Flow of a micropolar fluid past a decelerating rotating disc, *International Journal of Heat and Technology*, Vol. 15, n. 2, pp. 89 (**1997**).
18. **R. Bhargava**, Aggarwal. R.S & H. S. Takhar., Mixed convective nonsteady three dimensional micropolar fluid flow: *Int. J. Heat and Mass transfer*, Vol.33, pp443-448, UK, **1998**.
19. **R. Bhargava**, H. S. Takhar., Micropolar fluid flow past a decelerating rotating disc: *Italian J. of Heat and Technology*, Vol.15, No.2, pp89-93, **1998**.
20. **R. Bhargava**, H. S. Takhar., Mixed convection flow of a micropolar fluid over a stretching sheet: *Heat and Mass Transfer*, Vol.344, pp213-219, UK, **1998**.
21. H. S. Takhar, **R. Bhargava**, R. S. Agrawal and A. V. S. Balaji., Finite Element solution of micropolar fluid flow and heat transfer between two porous discs: *International Journal of Engg. Sci.*,UK,(**2000**),1907-1922.
22. **R. Bhargava**, H. S. Takhar., Numerical study of heat transfer characteristics of the micropolar boundary layer near a stagnation point on a moving wall: *Int. J. of Engg. Sci.*, Vol.38, UK, **2000**, p383-394.
23. H. S. Takhar, **Rama Bhargava** and R. S. Agarwal., Finite element solution of micropolar fluid flow from an enclosed rotating disc with suction and injection: *Int Jof Engg Sci*, Volume 39, Issue 8, May **2001**, Pages 913-927.
24. **R. Bhargava**, H. S. Takhar., Effect of hall currents on the MHD flow and heat transfer of a second order fluid between two parallel porous plates, *Int J of MHD and plasma*, Nova Science Publishers, USA, (**2001**).
25. **Bhargava R.**, Agarwal R. S., Kumar L. and Takhar H. S., Numerical solution for the mixed convection flow of a micropolar fluid past a continuously moving plate, *International Journal of Heat and Technology*, Vol. 20, No. 2, pp. 23-30 (**2002**).
26. **Bhargava R.**, Kumar L. and Takhar H. S., Mixed convection from a continuous surface in a parallel moving stream of a micropolar fluid, *Journal of Heat and Mass Transfer*, Vol. 39, pp. 407- 413 (**2003**).
27. **Bhargava R.**, Kumar L. and Takhar H. S., Numerical solution of free convection MHD micropolar fluid flow between two parallel porous vertical plates, *Int. J. of Engg Sci*, Vol. 41 pp. 123-136 (**2003**).
28. **R. Bhargava**, Kumar L. and H. S. Takhar., Finite element solution of mixed convection micropolar flow driven by a porous stretching sheet, *Int. J. of Engg Sci.*, Vol. 41, pp. 2161-2178, (**2003**).
29. **Bhargava R.**, Kumar L. and Takhar H. S., Quasilinearization of mixed convection micropolar flow near stagnation point with suction, *International Journal of Heat and Technology*, Vol. 22, no.1, pp. 103-112 (**2004**).

30. **Bhargava R.**, Kumar L. and Takhar H. S., Finite element study of mixed convection micropolar flow in a vertical circular pipe with variable surface conditions, *Int. J. of Engg Sci.*, Vol. 42, pp. 13-27 (**2004**).
31. **Bhargava R.**, Kumar L. and Takhar H. S., "Finite element solution of mixed convection flow on a moving vertical cylinder with suction in a moving micropolar fluid medium in *"Meccanica" International Journal of theoretical and applied Mechanics AIMETA*. **2004**.
32. Kumar L., **Bhargava R.**, Bhargava P., Takhar H.S., Finite element solution of mixed convection micropolar fluid flow between two vertical plates with varying temperature, *International journal of Archives of mechanics* Vol 57, **2005**, pp 251-264
33. **R. Bhargava**, Sharma.S & Takhar H. S., "Stagnation Point Micropolar Flow Heat and Mass Transfer on a Stretching Sheet by Using Finite Element Method" in *"International Journal of Fluid Mechanics Research"* USA **2005**.
34. Lokendra Kumar, **Rama Bhargava** and H. S. Takhar, Finite Element Solution of Mixed Convection on a moving vertical cylinder with suction in a moving micropolar fluid medium, *Meccanica*, (**2006**) 41: 63-78
35. **Bhargava R.**, Rawat S., Takhar H.S., Beg. O.A, Pulsatile magneto-biofluid flow and mass transfer in a non-Darcian porous medium channel, *Meccanica*, 42, 247–262, **2007**.
36. **Bhargava R.**, Sharma S, Takhar H.S, Beg O. A., P. Bhargava, Numerical solutions for Micropolar Transport Phenomena over a non linear stretching sheet, *Nonlinear Analysis Modeling and Control*, **2007**, Jan 29th, Vol. 12, No. 1, 45-63.
37. **Bhargava.R.**, Sharma.S., Bhargava P. & Harmindar S. Takhar, MHD Heat and Mass Transfer of Micropolar Fluid Flow Over a Stretching Sheet , *International Journal of Fluid Mechanics Research*, Vol 34, No. 1 , 79-97, **2007**.
38. O A. Beg, **Bhargava R.**, Rawat S., Takhar H.S., T. A. Beg, A Study of Steady Buoyancy- Driven Dissipative Micropolar Free Convective Heat and Mass Transfer in a Darcian Porous Regime with Chemical Reaction, *Nonlinear Analysis: Modeling and Control*, Vol. 12, No. 2, pp. 157–180, **2007**.
39. **Bhargava R.**, Takhar H. S, Rawat S., Beg O. A., R. Bhargava, H.S. Takhar, S. Rawat, Tasveer A. Beg, O. Anwar Beg, Finite Element Solutions for Non-Newtonian Pulsatile Flow in a Non-Darcian Porous Medium Conduit, *Nonlinear Analysis: Modeling and Control*, Vol. 12, No. 3, pp. 317–327, **2007**.
40. Beg O. A., **Bhargava R.**, Rawat S., Takhar H. S., Beg T. A., Numerical Analysis of Grashof and Darcy Number effects on Dissipative Natural Convection boundary layers in a Micropolar Fluid Saturated Porous medium, *International Journal of Fluid Mechanics Research* Vol 34, Issue 4, 287-307, **2007**.

41. H. S. Takhar, **R. Bhargava**, S. Rawat, T. A. Beg, O. Anwar Bég, T. K. Hung, Biomagnetic Hydrodynamics In a 2-Dimensional Non-Darcian Porous Medium: Finite Element Study, *Journal Of Theoretical And Applied Mechanics*, Volume 37, Number 2, **2007**.
42. **Bhargava R**, Takhar H.S., Beg O.A., Rawat S, Finite element modeling of Laminar flow of a third grade fluid in a Darcy Forchimmer porous medium with suction effects- *International Journal of Applied Mechanics and Engineering* Vol 12, Issue1, pp. 215 -233, **2007**
43. Osman Anwar Beg, Harmindar S. Takhar, **R. Bhargava**, S. Sharma, T.K Hung, Mathematical modeling of Biomagnetic Flow in a Micropolar Fluid-Saturated Darcian Porous Medium, *International Journal of fluid mechanics research*. Vol. 34, 5, pp. 403-424, **2007**.
44. H. Naroua, H S. Takhar, P. C. Ram, Tasveer A. Beg, O Anwar Beg, **R. Bhargava**, Transient Rotating Hydromagnetic Partially-Ionized Heat-Generating Gas Dynamic Flow with Hall/Ion-Slip Current Effects: Finite Element Analysis, *International journal of fluid mechanics research*, **2007**, Volume34, pp - 493-505.
45. **Bhargava R.**, Rawat S., Takhar. H.S., Beg. O.A., Beg T.A., Free Convection Heat Transfer of A Third Grade Viscoelastic Fluid In a Darcy-Forchheimer Porous Medium With Wall Mass Flux, Viscous Dissipation and Thermal Conductivity Variation: Numerical Solution By Finite Element Method, *Physica Scripta*. **77** 065402 **2008** (11pp).
46. O. Anwar Beg, **R. Bhargava**, S. Rawat, Kalim Halim and H. S. Thakar, Computational modeling of biomagnetic micropolar blood flow and heat transfer in a two dimensional non-Darcian porous medium, *Meccanica*, **2008**, Vol. 43, pp-391-410.
47. O. Anwar Beg, H. S. Takhar, J. Zueco, A. Sajid, **R. Bhargava**, Transient Couette flow in a rotating non-Darcian Porous medium parallel plate configuration: Network Simulation Method Solutions, *Acta Mechanica*. (Published online).
48. O. Anwar Beg, Joaquin Zueco, **R. Bhargava** and H.S. Takhar, Magnetohydrodynamic convection flow from a sphere to a non-Darcian porous medium with heat generation or absorption effects: Network simulation, *International Journal of Thermal Sciences* 48 (2009) 913–921.
49. Rama Sushil, Kumkum Garg and **Rama Bhargava**, Design, Validation, Simulation and Parametric Evaluation of a Novel Protocol for Locating Mobile Agents in Multiregion Environment, *Journal of Computer Science*, **2008**, Vol. 4 (3), pp. 256-271.
50. Rama Sushil, **Rama Bhargava** and Kumkum Garg, Location Update Schemes for Mobile Agents, *Journal of Computer Science*, **2008**, Vol. 7, pp. 37-43.
51. **R. Bhargava.**, S. Rawat, H.S. Takhar, O.A. Beg, T.A. Beg, Numerical Study of Heat Transfer of A Third Grade Viscoelastic Fluid In Non-Darcy Porous Media With Thermophysical Effects, *Physica Scripta*. **77** 065402, 2008.

52. O. Anwar Beg, **R. Bhargava**, S. Rawat, Kalim Halim, H.S. Thakar, Computational modeling of biomagnetic micropolar blood flow and heat transfer in a Two Dimensional Non- Darcian Porous Medium, *Meccanica*, Vol. 43, pp. 391-410, 2008.
53. O. A. Beg, H. S. Takhar, J. Zueco, A. Sajid, **R. Bhargava**, Transient Couette flow in a rotating non-Darcian Porous medium parallel plate configuration: Network Simulation Method Solutions, *Acta Mechanica*, Vol. 200, pp. 129-144, 2008.
54. Rama Sushil, Kumkum Garg and **Rama Bhargava**, Design, Validation, Simulation and Parametric Evaluation of a Novel Protocol for Locating Mobile Agents in Multiregion Environment, *Journal of Computer Science*, Vol. 4 (3), pp. 256-271, 2008.
55. Rama Sushil, **Rama Bhargava** and Kumkum Garg, Location Update Schemes for Mobile Agents, *Journal of Computer Science*, Vol. 7, pp. 37-43, 2008.
56. O.A Beg, **R. Bhargava**, S. Rawat and E. Kahya, Numerical Study Of Micropolar Convective Heat and Mass Transfer In A Non-Darcy Porous Regime With Soret And Dufour Diffusion Effects, *Emirates Journal for Engineering Research*, Vol-13(2), pp. 51-66, 2008.
57. Manoj kumar, Balasubramanian Raman and **Rama Bhargava**, A Review on Shape from Shading including Smooth and Polyhedral Objects, *Sci-Fronts, Journal of Multiple Sciences*, Vol. 2, No. 1, pp. 39-56, 2008.
58. Balasubramanian, **Rama Bhargava** and Manoj Kumar, A Shape from Shading Approach Using General Lambertian Reflectance Map, *International Journal on Information Processing(IJIP)*, 2008, Vol. 2, No. 3, pp.-33-44, 2008.
59. O. Anwar Beg, H. S. Takhar, Tasveer A. Beg, **R Bhargava**, and S. Rawat, Nonlinear Magneto-Heat Transfer in a fluid-Particle-Suspension flowing in a Non-Darcian Porous Channel With Heat Source And Buoyancy Effects: Numerical Study *JKAU: Eng. Sci.*, Vol 19(1), pp. 63-88, 2008.
60. S. Rawat and **R. Bhargava**, Finite Element Study Of Natural Convection Heat And Mass Transfer In A Micropolar Fluid-Saturated Porous Regime With Soret/Dufour Effects, *International Journal of Applied Math and mechanics*, Vol. 5(2), pp. 58 - 71, 2009.
61. Sanjeev Kumar, Manoj Kumar, N. Sukavanam, R. Balasubramanian and **Rama Bhargava**, Depth recovery of complex surfaces from texture-less pair of stereo images, *Electronic letters on computer vision and image analysis*, Vol. 8(1), pp. 44-56, 2009.
62. Rama Sushil, **Rama Bhargava**, Kumkum Garg, Petrinet based validation of novel location management techniques for mobile agents, *World Journal of Modelling and Simulation*, Vol. 5(1), pp. 3-21, 2009.



63. O. Anwar Beg, Joaquin Zueco, **R. Bhargava**, H.S. Takhar, Magnetohydrodynamic convection flow from a sphere to a non-Darcian porous medium with heat generation or absorption effects network simulation, *International Journal of Thermal Sciences*, Vol. 48, pp. 913-921, 2009.
64. Manoj Kumar, **Rama Bhargava** and R. Balasubramanian , A shape from shading approach for the reconstruction of polyhedral objects using genetic algorithm, *InfoCom Journal of Computer Science*, Vol. 8, No. 2, pp. 73-80, 2009.
65. S. Rawat, **R Bhargava** and O. A. Bég, Transient Magneto-micropolar free convection heat and mass transfer through a non-Darcy porous medium channel with variable thermal conductivity and heat source effects, *Journal of Mechanical Engineering Science*, Vol. 223, pp. 2341-2355, 2009.
66. **R. Bhargava**, R. Sharma, O.A. Beg, Oscillatory Chemically reacting MHD free convection heat and mass transfer in a porous medium with Soret and Dufour effects: Finite Element Modeling, *International Journal of Applied Mathematics and Mechanics*, Vol. 5(6), pp. 15-37, 2009.
67. S. Rawat, **R. Bhargava** and O.A. Bég, Pulsatile Dissipative Magneto-Bio-Rheological fluid flow and Heat Transfer in a Non-Darcy porous medium Channel: Finite Element Modelling, *EJER*, Vol.14(2), pp. 77-90, 2009.
68. O.A. Bég, J.Zueco, T.A.Beg and **R.Bhargava**, Network Simulation of the Electrohydrodynamic ion drag energy pump with electrical Reynolds number, slip and source effects. *International Journal of Applied Mathematics and Mechanics (IJAMM)*, Vol. 6(6), pp. 78-95, 2010.
69. O.A. Bég, Lik Sim, J. Zueco and **R. Bhargava**, Numerical study of magnetohydrodynamic viscous plasma flow in rotating porous media with Hall currents and inclined magnetic field influence, *Communications in Nonlinear Science and numerical Simulations*, Vol. 15, pp. 345-359, 2010.
70. **R. Bhargava**, O. Anwar Bég, S. Sharma, and J. Zuecoc, Finite element study of nonlinear two-dimensional deoxygenated BIOMAGNETIC micropolar flow, *Communications in Nonlinear Science and numerical Simulations*, Vol. 15, pp. 1210-1223, 2010.
71. **R. Bhargava**, O. Anwar Bég, T.A. Beg, and J. Zuecoc, Network simulation of electrohydrodynamics ion drag energy Pump with electrical reynolds number, slip and source effects, *Int. J. Applied mathematics and mechnaics*, Vol. 6, pp. 78-85, 2010.
72. O. A. Beg, Lik Sim, J. Lucco, **R. Bhargava**, Numerical Study of Magnetohydrodynamic Viscous plasma Flow in rotating porous Media with Hall currents and Inclined Magnetic Field Influence, *Communications in Nonlinear Science and numerical Simulations*, Vol.15, pp. 345-359, 2010.

73. S.K. Ghosh, O.A. Bég, **R. Bhargava**, S. Rawat, and T.A. Bég, Mathematical Modelling of Transient Magnetohydrodynamic couple stress fluid flow in a rotating channel, *International Journal of Applied Mathematics and Mechanics*, Vol.6(6), pp. 23-45, 2010.
74. R. Sharma and **R. Bhargava**, A numerical solution of unsteady MHD convection heat and mass transfer past a semi-infinite vertical porous moving plate using Element free Galerkin method, *Computational Material Science*, Vol. 48, 537-543, 2010.
75. R. Sharma, **R. Bhargava** and I.V. Singh, Combined effect of magnetic field and heat absorption on unsteady free convection and heat transfer flow in a micropolar fluid past a semi-infinite moving plate with viscous dissipation using Element free Galerkin method, *Applied Mathematics and Computation*, Vol. 217, pp. 308-321, 2010.
76. O. Anwar Beg, V. R. Prasad, B. Vasu, N. Bhaskar Reddy, Q. Li and **R. Bhargava**, Free convection heat and mass transfer from an isothermal sphere to a micropolar regime with Soret/Dufour effects, *Int. J. of Heat and Mass Transfer*, Vol. 54(1-3), pp. 9-18, 2011.
77. **R. Bhargava** and P. Rana, Finite element solution to mixed convection in MHD flow of micropolar fluid along a moving vertical cylinder with variable conductivity, *International Journal of Applied Mathematics and Mechanics*, Vol.7 (1), pp. 29-51, 2011.
78. **R. Bhargava** and P. Rana, Numerical Study of heat transfer enhancement in mixed convection flow along a vertical plate with heat source/sink utilizing nano fluid, *Commun Nonlinear Science Numerical Simulation*, Vol.16, pp. 4318-4334, 2011.
79. Dhananjay, G.S. Agrawal, **R. Bhargava**, Rayleigh-Bénard convection in nanofluid, *International Journal of Applied Mathematics and Mechanics* Vol.7, pp. 61-76, 2011.
80. Dhananjay Yadav, G.S. Agrawal, **R. Bhargava**, Thermal instability in rotating nanofluid, *International Journal of Engineering Science* Vol.49, pp.1171–1184, 2011.
81. Puneet Rana and **R. Bhargava**, Finite element simulation of transport phenomena of viscoelastic nanofluid over a stretching sheet with energy dissipation, *Journal of Information and Operations Management*, 3(2012), 158-161.
82. Sonam Singh and **R. Bhargava**, Element free galerkin simulation of unsteady micropolar squeeze film flow of a biological lubricant, *Journal of Information and Operations Management*, 3(2012), 149-152.
83. S Rawat, **R Bhargava**, S Kapoor and Anwar O Beg., Heat and mass transfer of a chemically reacting micropolar fluid over a linear stretching sheet in darcy forchheimer porous medium. *International Journal of Computer Applications* 44(6):40-51, 2012.

84. P. Rana and **R. Bhargava**, Flow and heat transfer of a nanofluid over a nonlinearly stretching sheet: A numerical study, *Communications in Nonlinear Science and Numerical Simulation* 17, 212–226, 2012. Elsevier.
85. P. Rana and **R. Bhargava**, [Mixed Convective Heat Transfer Flow of Nanofluid past a Permeable Vertical Flat Plate with Magnetic Effects: A Finite Element Study](#), *Applied Mechanics and Materials*, 110, 3679–3687, 2012.
86. Puneet Rana, **R. Bhargava**, and O.A. Bég, Numerical solution for mixed convection boundary layer flow of a nanofluid along an inclined plate embedded in a porous medium, *Computers & Mathematics with Applications*, 64, 2816–2832, 2012.
87. Dhananjay Yadav, G.S. Agrawal, **R. Bhargava**, Effect of internal heat source on the onset of convection in nanofluid layer, *Applied Mechanics and Materials* (2012), 110-116, 1827-1832
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