

PROFILE

Dr. K.S. Bala Murugan

Designation: Professor

Department of Mathematics & Humanities

Date of Birth: 02-07-1972

Date of Joining: 07-08-1995

Research Experience: 16 years

Email: muruganbalaks@gmail.com

Area of Research: Fluid Dynamics

Research Interests: Fluid Mechanics, Heat and Mass transfer in Fluid Flows.

Research Guidance: PhD: Awarded: 03; Pursuing: 05

No. of Papers Published: 84 (Journals: 80 Conferences: 04) Scopus: 36; Web of Science: 13.

Publication Citation Details: Scopus: 76; Publons: 39; Google Scholar: 200

Guest Lectures Delivered: 02

Patents Published: 01



Patents Details

S. No	Patent No	Title of the Patent	Details of Applicants & Inventors	Remarks
1	202041044264A	Under Water Pollution Monitoring System to Prevent Fatalities of Aqua.	Dr. Ch. Baby Ran, Dr. N. Vedavathi, Dr. Y. Udaya Kumar, Dr. S. Mohiddin Shaw, Dr. K.S. Balamurugan , Dr. J.L. R. Prasad, Dr. G. Dharmiah, S.Sreelatha, N. Udaya Bhaskar Varma, K. Kranthi Kumar.	Published on: 16-10-2020 Granted on: ---

Education

Ph.D. in Mathematics, 2012, S.V. University, Tirupati, Andhra Pradesh, India

Dissertation Title: "Heat and Mass Transfer effects on some magneto hydrodynamic laminar flows".

M.Phil. in Mathematics, Acharya Nagarjuna University, Guntur, Andhra Pradesh, India

M.Sc. in Applied Mathematics, S.V. University, Tirupati, Andhra Pradesh, India

B.Sc. (Maths, Physics, Statistics) S.V. University, Tirupati, Andhra Pradesh, India

Teaching Experience

Total Experience: 26 years

- Having 8 year Experience (1995-2003) as a **Lecturer** in Mathematics & Humanities, R.V. R & J.C College of Engineering, Guntur, Andhra Pradesh, India
- Having 5 year Experience (2003-2008) as a **Senior Lecturer** in Mathematics & Humanities, R.V. R & J.C College of Engineering, Guntur, Andhra Pradesh, India
- Having 12 year Experience (2008-2020) as an **Associate Professor in** Mathematics & Humanities, R.V. R & J.C College of Engineering, Guntur, Andhra Pradesh, India
- Having 1 year Experience (2020-tilldate) as an **Professor in** Mathematics & Humanities, R.V. R & J.C College of Engineering, Guntur, Andhra Pradesh, India

Research Experience

Research Experience is 16 years. Throughout my career before and after Ph.D., I was involved in many broad research areas. These areas include Ring Theory, Transport of Porous media, Heat and Mass Transfer, Magneto hydrodynamics.

Details of Research:

- **Research Guidance:** M. Phil. Ph.D.
Awarded 00 **03**
Working- **00** **05**
- **Patents Published: 01**
- **Guest Lectures Delivered: 02**
- **Research Publications:** Journals Conferences Accepted Communicated
International - **70** **01** **00** **02**
National: **10** **03** --- ---
- **Papers presented in Conferences, Seminars:**
International - **10** National - **18**
- **Chairmanships at National or International Conferences:**
International Conference - **01** National conference - **01**

- **Training Courses, Workshops, Seminars attended:**

International - **14** National - **21**

Professional Reviewing Services

- Reviewer for International Journal of Fluid Mechanics
- Reviewer for Ain Shams Engineering Journal

Memberships

- Life Member, Andhra Pradesh Society for Mathematical Sciences
- Life Member. The Indian Mathematical Society

Contribution to Institution

- Member in External Examinations Committee (1996 - 2001)
- I/IV B. Tech Time Table In charge (2001-2012)
- Convener for Time Table Committee (2012 - 2015)
- Executive Member in Alumni Committee (2015 – till date)

Guest Lectures Delivered

1. Delivered an invited talk on “Diffusion thermo effect on unsteady free convective flow past an inclined permeable surface” in the **International Conference on Applications of Fluid dynamics** held at **VIT Vellore**, India in association with Society for Industrial and Applied Mathematics, USA, during 13-15th December 2018.
2. Delivered an invited talk on “Entropy generation on MHD forced and free convection flow in a vertical porous channel with Navier slip” in the **International Symposium on Recent Trends in Mathematical Sciences** held at **VIT Vellore**, during 15-16th July 2019.

Refereed Journal Publications

1. Influence of ion-slip and hall current on magneto hydrodynamic free convective flow past an accelerated plate with dufour effect and ramped temperature. *Advances in Fluid Dynamics, Lecture Notes in Mechanical Engineering, Springer (Scopus indexed)*, 219-229, **2021**, H-index: 12, ISBN: 2195-4356. DOI: https://doi.org/10.1007/978-981-15-4308-1_17.
2. Aligned magnetic field effect on unsteady MHD double diffusive free convection flow of Kunshinski fluid past an inclined moving porous plate. *Advances in Fluid Dynamics, Lecture Notes in Mechanical Engineering, Springer (Scopus indexed)*, 255-262, **2021**, H-index: 12, ISBN: 2195-4356. DOI: https://doi.org/10.1007/978-981-15-4308-1_20.
3. Cosinusoidally fluctuating temperature and chemical reacting effects on MHD free convective fluid flow past a vertical porous plate with hall ion-slip current and solet. *Advances in Fluid Dynamics, Lecture Notes in Mechanical Engineering, Springer (Scopus indexed)*, 15-24, **2021**, H-index: 12, ISBN: 2195-4356, https://doi.org/10.1007/978-981-15-4308-1_2.
4. Influence of ohmic heating and viscous dissipation on steady MHD Non-Newtonian mixed convective fluid flow over an infinite vertical porous plate with hall and ion-slip current. *Advances in Fluid Dynamics, Lecture Notes in Mechanical Engineering, Springer (Scopus indexed)*, 159-169, **2021**, H-index: 12, ISBN: 2195-4356. https://doi.org/10.1007/978-981-15-4308-1_12.
5. Hall and ion slip effects on MHD Ag-H₂O Nano fluid biomedical engineering applications, *Journal of Critical Reviews (Scopus indexed)* 7(15), 1270-1284, **2020**. H-index: 5, ISSN: 2394-5125. <https://doi.org/doi:10.31838/jcr.07.15.168>.
6. Analytical study on biomedical and its mechanisms using casson Fluid over a vertical plate in presence of heat absorption. *Journal of Engineering, Computing & Architecture*, 10(8), 9-21, **2020**. ISSN: 1934-7197. <https://doi.org/17.0002.JECA.2020.V10I8.200786.5117>
7. Entropy generation and temperature gradient heat source effects on MHD couette flow with permeable base in the presence of viscous and joules dissipation, *Frontiers in Heat and Mass Transfer, (indexed in Scopus and web of science)*, 14(6), **2020**. ISSN: 2151-8629, <http://dx.doi.org/10.5098/hmt.15.8>, Country: United States. H-index: 16.
8. Hall and Ion Slip Impact on Magneto-Titanium Alloy Nano liquid with Diffusion Thermo and Radiation Absorption, *International Journal of Ambient Energy, (indexed in*

Scopus and web of science), 41(13), **2020**, ISSN: 21621-8246, Publisher: Taylor & Francis Ltd. United Kingdom. H-index: 23.

<https://doi.org/10.1080/01430750.2020.1831597>

9. Perturbation analysis of thermophoresis, hall current and heat source on dissipative aligned convective flow about an inclined plate. **International Journal of Thermo fluid Science and Technology**, (indexed in Scopus), 7(1), **2020**. Paper No. 20070103. Online ISSN: 2706-9885. <https://doi.org/10.36963/IJTST.20070103>. Published by Wen Dao (Hong Kong) Culture Media Corporation Limited.
10. An incitement of hall and aligned MHD casson flow, **Test Engineering & Management**, (indexed in Scopus) 83, 12035-12040, June 2020. ISSN: 0193-4120.
11. Steady MHD Casson ohmic heating and viscous dissipative fluid flow past an infinite vertical porous plat in the presence of soret, hall and ion slip current, **Heat Transfer**, 49(3), 1583-1612, H-index: 24, **May 2020**. ISSN: 2688-4542. Country: United States, Publisher: John Wiley & Sons Inc. <https://doi.org/10.1002/htj.21680>.
12. A steady of MHD dissipative fluid with radiation absorption and chemical reaction effects. **Journal of Xidian University**, 14(5), 1168-1177, **May 2020**. ISSN: 1001-2400. Country China. <https://doi.org/10.3789/jxu14.5/128>.
13. Heat and Mass Transfer Effects on MHD Free Convection Flow Past A Semi-Infinite Vertical Permeable Moving Plate with Radiation Absorption and Chemical Reaction. **Journal of Advanced Research in dynamical and Control Systems**, (indexed in Scopus) 12(2), 1508-1520, **April 2020**. ISSN: 1943-023X. Hindex-8, Publisher: Institute of Advanced Research, Country: United States. **DOI: [10.5373/JARDCS/V12I2/S20201192](https://doi.org/10.5373/JARDCS/V12I2/S20201192)**.
14. Unsteady MHD Casson Dissipative Fluid Flow past a Semi-infinite Vertical Porous Plate with Radiation Absorption and Chemical Reaction in Presence of Heat Generation, **Mathematical Modelling of Engineering Problems**, (indexed in Scopus) 7(1), 160-172. H-index: 6, **April 2020**. ISSN: 2369-0747. Country: Canada. Publisher: International Information and Engineering Technology Association. <https://doi.org/10.18280/mmep.070120>.
15. Hall and ion slip effects on Ag-water based MHD Nano fluid flow over a semi-infinite vertical plate embedded in a porous medium, **Frontiers in Heat and Mass Transfer**, (indexed in Scopus and web of science), 14(6), **March 2020**. ISSN: 2151-8629, **DOI: [10.59/hmt.14.6](https://doi.org/10.59/hmt.14.6)**. Published by Global Digital General, Country: United States. H-index: 16.

16. Influence of Dufour and thermal radiation on unsteady MHD Walter's liquid model-B flow past an impulsively started infinite vertical plate embedded in a porous medium with chemical reaction, hall and ion slip current. **Springer Nature Applied Sciences** (Web of Science) 2(4), 742, **March 2020**. ISSN: 2523-3963, <https://doi.org/10.1007/s42452-2020-2484-y>.
17. Effects of Radiation and Radiation Absorption on Unsteady MHD Flow Past a Vertical Porous Flat Plate in a Rotating System with Chemical Reaction in a Nano fluid, *International Journal of Advanced Trends in Computer Applications*, Special Issue 1 (1), July - 2019, pp. 147-152, ISSN: 2395-3519.
18. Hall and Ion-Slip Effects on MHD Free Convection Flow through An Oscillatory Porous Medium With Constant Suction Velocity And Radiation, *International Journal of Advanced Trends in Computer Applications*, Special Issue 1 (1), July - 2019, pp. 159-166, ISSN: 2395-3519.
19. Chemical Reaction Effect on Magnetite Nano Fluid through Permeable Surface, *International Journal of Innovative Technology and Exploring Engineering*, ISSN: 2278-3075, Volume-8 Issue-11, September 2019. DOI: 10.35940/ijitee.K1513.0981119.
20. Perturbation analysis of Rivlin-Ericksen fluid on heat transfer in the presence of heat absorption, *Asian Journal of Engineering and Applied Technology*, 8(3), 14-20, October 2019. ISSN: 2249-068X.
21. Chemical Reaction Influence on General Fluid, *International Journal of Innovative Technology and Exploring Engineering*, ISSN: 2278-3075, Volume-9 Issue-2, December 2019. DOI: 10.35940/ijitee.B6905.129219.
22. Radiation, Dissipation, and Dufour Effects on MHD Free Convection Flow through a Vertical Oscillatory Porous Plate with Ion Slip Current. *Numerical Heat Transfer and Fluid Flow*. **Lecture Notes in Mechanical Engineering**. pp. 587-596. **Publisher:** Springer, Singapore **DOI:** https://doi.org/10.1007/978-981-13-1903-7_67. **Print ISBN:** 978-981-13-1902-0, **Online ISBN:** 978-981-13-1903-7.
23. A study on MHD boundary layer flow in rotating frame Nano fluid with chemical reaction, **Frontiers in Heat and Mass Transfer (Scopus indexed Journal)**, 12, February 2019. ISSN: 2151-8629, DOI: 10.5098/hmt.12.10. H-index-13.
24. A study on $Al_2O_3 - H_2O$ Nano Fluid in the presence of Constant Heat Source. **International Journal of Mechanical and Production Engineering Research and**

- Development**, 9(2), 399-406, April 2019. ISSN: 2249-6890. (Scopus indexed), H-index-3. DOI: 10.2424/ijmperdoct201829. **DOI : 10.24247/ijmperdapr201938**
25. Viscous dissipation effect on transient aligned magnetic free convective flow past an inclined moving plate, **Frontiers in Heat and Mass Transfer (Scopus indexed & WEB of Science)**, 12, May 2019. ISSN: 2151-8629, DOI: 10.5098/hmt.12.17. H-index-13.
26. Effects of Chemical Reaction and Radiation Absorption on MHD Free Convective Flow with Hall Current, **Journal of Computer and Mathematical Sciences**, UGC No: 44720, 10(6), 1364-1371, June 2019. ISSN: 0976-5727 (Print), 2319-8133 (Online).
27. Radiation absorption and Viscous-dissipation effects on magneto hydrodynamic free-convective flow past a semi-infinite moving vertical porous plate. *International Journal of Fluid Mechanics Research*, 45(5), 439-458. August 2018. ISSN Print: 1064-2277, ISSN Online: 2152-5102. United States. Publisher: Begell House. Scopus indexed, H-index-15. **DOI: 10.1615/InterJFluidMechRes.2018024790.**
28. Analytical investigations of aligned and Hall effects on unsteady free convection flow past an accelerated inclined plate. *International Journal of Mechanical and Production Engineering Research and Development*, 8(4), 661-668, August 2018. ISSN: 2249-6890. Scopus indexed, H-index-3. DOI: 10.2424/ijmperdaug201872
29. Effects of radiation and hall current on unsteady MHD free convective flow over inclined porous surface. *International Journal of Mechanical and Production Engineering Research and Development*, 8(4), 1177-1186, August 2018. ISSN: 2249-6890. Scopus indexed, H-index-3. DOI: 10.2424/ijmperdaug2018121
30. M. Sudhakar and Dr. K.S. Balamurugan, Entropy generation analysis in a vertical porous channel with navier slip in the presence of viscous dissipation and heat source. *International Journal of Mechanical and Production Engineering Research and Development*, 8(5), 261-270, October 2018. ISSN: 2249-6890. Scopus indexed, H-index-3. DOI: 10.2424/ijmperdoct201829.
31. Viscous dissipation and Dufour effects on MHD free convection flow through an oscillatory inclined porous plate with hall and ion-slip current, *International Journal of Engineering & Technology*, 7(4-5), 410-415, October 2018, **ISSN: 2227-524X**, Scopus indexed, H-index-1. Country: United Arab Emirates **DOI: 10.14419/ijet.v7i4.5.20194.**
32. Heat transfer on MHD nano fluid flow over a semi- infinite flat plate embedded in a porous medium with radiation absorption, heat source and diffusion thermo effect, **Frontiers in Heat and Mass Transfer (Scopus indexed Journal)**, 9(38), January 2018. ISSN: 2151-8629, DOI: 10.5098/hmt.9.38. **H-index-13.**

33. Chemical reaction and Viscous Dissipation effects on MHD free convective Rivlin-Ericksen fluid flow past a semi-infinite stationary vertical porous plate with radiation absorption, *International Journal of Creative Research Thoughts*, (UGC Approved Journal) 6(1), 1210-1235. March 2018. ISSN: 2320-2882, DOI:10.6084/m9.doi.oneIJCRT1803271.
34. Entropy Generation and dissipative effects on couette flow in an aligned magnetic field with radiation and heat source, *International Journal of Engineering and Science Invention*, (UGC Approved Journal) 7(4), 1-11, April 2018. ISSN: 2319-6734.
35. Heat and Mass Transfer on MHD Fluid Flow Over A Semi Infinite Flat Plate with Radiation Absorption, Heat Source and Diffusion Thermo Effect, **Frontiers in Heat and Mass Transfer (Scopus indexed Journal)**, 11(6), April, 2018. ISSN: 2151-8629, DOI: 10.5098/hmt.11.6. **H-index-13.**
36. Entropy generation and dissipative effects on couette flow through porous medium under the influence of aligned magnetic field in the presence of thermal radiation and temperature dependent heat source, *Asian Journal of Mathematics and Computer Research* (UGC Approved Journal) 25(3), 157-173, May 2018. ISSN: 2395-4213.
37. MHD boundary layer flow and heat transfer of nano fluid past a radiative and impulsive vertical plate, *Frontiers in Heat and Mass Transfer (Scopus indexed Journal)*, 11(14), June, 2018. ISSN: 2151-8629, DOI: 10.5098/hmt.11.14. **H-index-13.**
38. Radiation, Dissipation and Dufour effects on MHD free convection Casson fluid flow through a vertical oscillatory porous plate with ion-slip current **International Journal of Heat and Technology, (Scopus indexed Journal)**, 36(2), June, 2018. ISSN: 0392-8764, **H-index-22. Country: Italy.** <https://doi.org/10.18280/ijht360214>.
39. Chemical reaction and sores effects on unsteady MHD free convective flow past a vertical porous plate embedded in a porous medium in a slip flow regime, **International Journal of Engineering Inventions**, 7(5), 55-60, May 2018, ISSN: 2319-6491.
40. Analysis of heat and mass transfer on MHD flow with Ag, Al₂O₃ and Cu water nano fluids over a semi-infinite surface, **Research Journal of Science and Technology**, 9(3), 2017. Doi:10.5958/5349-2988.2017.00063.8.
41. Chemical reaction and viscous dissipation effects on MHD free convective flow past a semi-infinite moving vertical plate with radiation absorption, **Global Journal of Pure and Applied Mathematics**, 13(12), 8297-8322, 2017.

42. MHD Transient Free Convection Aligned Magnetic and Chemically Reactive Flow past a Porous Inclined Plate with Radiation and Temperature Gradient Dependent Heat Source in Slip Flow Regime, *IOSR Journal of Mathematics*, Vol. 13, Issue 4, pp. 34-45, July 2017. ISSN: 2278-5728.
43. Effect of chemical reaction on heat and mass transfer MHD flow with Ag, TiO₂ and Cu water Nano fluids over a semi-infinite surface, *Global Journal of Pure and Applied Mathematics*, Vol. 13, Issue 9, pp. 6609-6632, August 2017. ISSN: 0973-1768.
44. Hydro magnetic free convective flow past an inclined moving surface embedded in porous medium in a slip flow regime, *International Journal of Mechanical Dynamics and Analysis*, Vol. 3, Issue 1, pp. 1-12, September 2017.
45. Radiation absorption effects on unsteady MHD flow of radiative and chemically reacting fluid past a porous plate with variable suction and concentration, *International Journal of Mechanical and Production Engineering Research and Development*, Vol. 7, Issue 5, pp. 161-174, October 2017. ISSN: 2249-6890. **Scopus indexed, H-index-3.**
46. Heat transfer on MHD flow of visco-elastic fluid through a rotating porous channel with Hall Effect. *International Journal Engineering Research and Application*, Vol. 7, Issue 10, pp. 24-33, October 2017. ISSN: 2248-9622. DOI:10.9790/9622-0710062433.
47. Analysis of Heat and Mass Transfer on MHD flow of Nanofluid over a Semi Infinite moving Surface with Diffusion Thermo. *SKIT Research Journal*, Vol. 7. No.2, pp. 78-87, November 2017, ISSN: 2278-2508.
48. Dr. K. S. Balamurugan, Associate Professor, "Chemical reaction and Soret effect on MHD free convective flow past an infinite vertical porous plate with variable suction", *International Journal of Chemical Engineering Research*, Vol.9 No.1, pp. 51-62, April 2017. ISSN: 0975-6442.
49. Dr. K. S. Balamurugan, Associate Professor, "Effect of chemical reaction on MHD casson fluid flow past an inclined surface with radiation", *SKIT Research Journal*, Vol. 7. No.1, pp. 53-59, May 2017, ISSN: 2278-2508
50. Dr. K. S. Balamurugan, Associate Professor, "Unsteady MHD free convective flow through porous medium over a vertical plate with variable temperature and concentration", *SKIT Research Journal*, Vol. 7. No.1, pp. 67-72, May 2017, ISSN: 2278-2508
51. Dr. K. S. Balamurugan, Associate Professor, "Radiation and Chemical reaction effect on MHD flow past an accelerated isothermal inclined plate in a rotating fluid with variable

- mass diffusion” *International Journal of Chemical Separation Technology*, Vol.3, Issue 1, pp. 1-14, June 2017. ISSN: 2456-6691.
52. Dr. K. S. Balamurugan, Associate Professor, “MHD free convective flow past a semi-infinite vertical permeable moving plate with heat absorption.” *International Journal of Engineering and Scientific Research*, Vol. 4, Issue. 8, pp. 46-59, August 2016. ISSN: 2347-6532.
53. Dr. K. S. Balamurugan, Associate Professor, “Synthetic response and Radiation absorption impacts on unsteady MHD free convective flow over a vertical permeable plate” *International Journal of Chemical Sciences, Indexed in Scopus*, Vol.14, No.4, pp. 2051-2065, December 2016, ISSN: 0972-768X.
54. Dr. K. S. Balamurugan, Associate Professor, Influence of Radiation absorption, Viscous and Joules dissipation on MHD free convection chemically reactive and radiative flow in a moving inclined porous plate with temperature dependent heat source, *International Referred Journal of Engineering and Science*, Vol.5, Issue.12, pp. 20-31, December 2016. ISSN: 2319-183X.
55. P. Ramaiah, SVK Varma, K. Rama Krishna Prasad and **K.S. Balamurugan**, “Chemical reaction and Radiation absorption effects on MHD convective heat and mass transfer flow of a viscoelastic fluid past an oscillatory porous plate with heat generation/absorption”, *International Journal of Chemical Sciences, Indexed in Scopus*, Vol. 14, No.2, pp. 570-584, June 2016, ISSN: 0972-768X.
56. G. Charankumar, G. Dharmiah, **K.S. Balamurugan** and N. Vedavathi, “Chemical Reaction and Soret Effects on Casson MHD fluid flow over a vertical plate”, *International Journal of Chemical Sciences, Indexed in Scopus*, Vol. 14, No.1, pp. 213-221, March 2016, ISSN: 0972-768X.
57. N. Vedavathi, G. Dharmiah, **K.S. Balamurugan** and **G. Charankumar**, “Chemical reaction, Radiation and Dufour effects on casson magneto hydro dynamics fluid flow over a vertical plate with heat source/sink”, *Global Journal of Pure and Applied Mathematics, Indexed in Scopus*, Vol. 12, No.2, pp. 191-200, February 2016, ISSN: 0973-1768.
58. **K.S. Balamurugan**, J.L. Ramaprasad and S.V. K. Varma, “Unsteady MHD Free Convective Flow past a Moving Vertical Plate with Time Dependent Suction and Chemical Reaction in a Slip Flow Regime”. *Procedia Engineering An Elsevier Journal, Indexed in Scopus*, Vol. 127, pp. 516-523, December 2015. ISSN: 1877-7058.

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60. J.L. Ramaprasad, **K.S. Balamurugan** and G. Dharmiah, “Unsteady MHD convective heat and mass transfer flow past an inclined moving surface with heat absorption”, **JP Journal of Heat and Mass Transfer, Indexed in Scopus**, Vol.13, No.1, pp. 33-51, December **2015**, ISSN: 0973-5763.
61. N. Vedavathi, **K.S. Balamurugan** and G. Dharmiah, “Effects of Radiation, Chemical reaction and Soret on unsteady MHD free convective flow over a vertical porous plate”, **International Journal of Scientific and Innovative Mathematical Research**, Vol.3, Special Issue 5, pp. 93-101, November **2015** ISSN: 2347-307X.
62. J. Prakash, **K.S. Balamurugan** and S.V.K. Varma, “Thermo-diffusion and Chemical reaction effects on MHD three dimensional free convective couette flow”, **Walailak Journal of Science and Technology (Scopus), Thailand**, Vol.12, No.9, pp. 805-830, September **2015**. ISSN: 1686-3933.
63. Y. Sudarshan Reddy, S.V.K. Varma, **K.S. Balamurugan** and J.L. Ramaprasad, “Chemical reaction and radiation absorption effects on hydromagnetic free convection flow past a vertical plate with constant mass flux”, **Far East Journal of Mathematical Sciences (Scopus)**, Vol.98, No.2, pp. 133-149, September **2015**. ISSN: 0972-087
64. Ch.H.K. Gopal and **K.S. Balamurugan**, “Effect of Maxwell Fluid on Unsteady Hydromagnetic Flow Through a Porous Medium in a Rotating Parallel Plate Channel”, **Extensive Journal of Applied Sciences, Pakistan**, Vol.3, No.5, pp. 182-193, August **2015**. ISSN: 2409-9511.
65. **K.S. Balamurugan**, S.V.K. Varma and V.C.C. Raju, “Chemical Reaction And Thermo Diffusion Effects On MHD Free Convective Flow Past A Moving Vertical Plate With Time Dependent Suction And Heat Source In A Slip Flow Regime”, **International Journal of Engineering & Scientific Research**, Vol.3, No.7, pp. 102-114, July **2015**, ISSN: 2347-9532.
66. J. Prakash, **K.S. Balamurugan** and S.V.K. Varma, “Soret and chemical reaction effects on a three-dimensional MHD convective flow of dissipative fluid along an infinite vertical porous plate”, **Journal of Computational and Applied Research in Mechanical Engineering, Iran**, Vol.4, No.1, pp. 19-42, September **2014**. ISSN: 2251-6549.

67. **K.S. Balamurugan, P. Ramaiah, S.V.K. Varma and J.L. Ramaprasad**, “Thermal Radiation and Radiation Absorption Effects on Unsteady MHD Double Diffusive Free Convection Flow of Kuvshinski Fluid Past a Moving Porous Plate Embedded in a Porous Medium with Chemical Reaction and Heat Generation”, **Far East Journal of Mathematical Sciences (Scopus)**, Vol.91, No.2, pp. 211-231, August 2014. ISSN: 0972-0871.
68. P.M. Kishore, S.V.K. Varma, S. Masthanrao, and **K.S. Balamurugan**, “The effect of chemical reaction on MHD free convection flow of dissipative fluid past an exponentially accelerated vertical plate”. **International Journal of Computational Engineering Research**, Vol. 4, No. 1, pp. 11-26, January 2014 ISSN: 2250-3005.
69. J. Prakash, K.S. Balamurugan and S.V.K. Varma, “Soret and Chemical Reaction Effects on MHD Flow through Porous Medium with Constant Heat and Mass Flux”. **GAMS Journal of Mathematics & Mathematical Bio Sciences**, Vol. 4, No. 1, pp. 1-13, December 2013. ISSN: 0974-2689.
70. A.G. Vijayakumar, B. Rushi Kumar, **K.S. Balamurugan** and S.V.K. Varma, “The effects of Induced magnetic field and Radiation on MHD mixed convective chemically reacting fluid over a porous vertical plate”. **Far East Journal of Mathematical Sciences (Scopus)**, Vol.80, No.1, pp. 135-154, November 2013. ISSN: 0972-0871.
71. S. Masthanrao, **K.S. Balamurugan** and S.V.K. Varma, “Chemical Reaction effects on MHD free convection flow through a porous medium bounded by an inclined surface”. **International Journal of Mathematics and Computer Applications Research**, Vol. 3, No. 3, pp. 13-22, August 2013 ISSN: 2249-6955.
72. **K.S. Balamurugan** and S.V.K. Varma, “Chemical Reaction and Thermo diffusion effects on MHD free convection flow past a moving vertical plate in a slip flow regime”. **Mathematical Sciences International Research Journal**, Vol.2, No.2, pp. 504-512, August 2013 ISSN: 2278-8697.
73. Ch.H.K. Gopal and **K.S. Balamurugan**, “Unsteady Hydromagnetic Flow of an Incompressible Electrically Conducting Maxwell Fluid through a Porous Medium in a Rotating Parallel Plate Channel”. **International Journal of Advances in Science and Technology**, Vol.7, No.2, pp. 97-107, August 2013 ISSN: 2229-5216.
74. S. Masthanrao, **K.S. Balamurugan**, S.V.K. Varma and V.C.C. Raju, “Chemical Reaction and Hall Effects on MHD convective flow along an infinite vertical porous plate with variable suction and heat absorption”. **Applications and Applied**

Mathematics: An International American Journal, Vol. 8, No. 1, pp. 268-288, June 2013. ISSN: 1932-9946.

75. A.G. Vijayakumar, S.V.K. Varma and **K.S. Balamurugan**, “The effects of heat source and radiation on unsteady MHD free convective fluid flow embedded in a porous medium with time-dependent suction”. **Far East Journal of Applied Mathematics**, Vol. 61, No. 2, pp. 91-116, February 2012. ISSN: 0972-960.
76. Y. Sudarshan Reddy, **K.S. Balamurugan**, S.V.K. Varma, and N.Ch.S. N. Iyengar, “Radiation and Chemical Reaction Effects on MHD Mixed Free Convective Flow through a Porous Medium with Viscous Dissipation”. **International Journal of Advances in Science and Technology**, Vol. 3, No. 4, pp. 86-105, October 2011. ISSN: 22295216.
77. **K.S. Balamurugan**, S.V.K. Varma, K. Rama Krishna Prasad and N.Ch.S. N. Iyengar, “Dissipation, Chemical Reaction and Thermo-Diffusion Effects on MHD Free Convection Flow through Porous Medium with Constant Suction”. **International Journal of Advances in Science and Technology**, Vol. 3, No. 4, pp. 113-131, October 2011. ISSN: 22295216.
78. **K.S. Balamurugan**, S.V.K. Varma, K. Rama Krishna Prasad and N.Ch.S. N. Iyengar, “Chemical Reaction and Thermo Diffusion Effects on MHD Three Dimensional free Convection Couette Flow with Heat Absorption”. **International Journal of Advances in Science and Technology**, Vol. 3, No. 1, pp. 58-72, July 2011. ISSN: 22295216.
79. **K.S. Balamurugan**, S.V.K. Varma, K. Rama Krishna Prasad and N.Ch.S. N. Iyengar, “Thermo Diffusion and Chemical Reaction Effects on a Three Dimensional MHD mixed Convective Flow along an infinite vertical porous plate with Viscous and Joules Dissipation”. **International Journal of Advances in Science and Technology**, Vol. 3, No. 1, pp. 73-92, July 2011. ISSN: 22295216
80. B. Satyanarayana, D. Nagaraju, **K.S. Balamurugan** and Godloza Lungisile, “Finite Dimension in Associative Rings”. **Kyungpook Mathematical Journal (KMJ) Korea**, Vol. 48, No. 1, pp. 37-43, 2008. ISSN: 1225-6951.

Conference Publications

1. **K.S. Balamurugan**, S.V.K. Varma and K. Rama Krishna Prasad, “Chemical Reaction and Thermo Diffusion Effects on MHD Three Dimensional Free Convection Couette

- Flow with Heat Absorption”, **Proceedings of the International Conference on Advances in Mathematical & Computational Methods**, (AMCM-2011) Vol.1, pp . 60-68, January **2011**. ISBN: 978-81-908497-6-0.
2. **K.S. Balamurugan**, S.V.K. Varma and K. Rama Krishna Prasad, “Chemical Reaction and Thermo-diffusion effects on transient free convective MHD flow over a vertical plate in slip flow regime with heat source”. **Proceedings of National Conference on Applications of Mathematics in Engineering Sciences (NCAMES-2011)**, Organized by Department of Engineering Mathematics A.U. College of Engineering, Andhra University, Visakhapatnam, A.P. India, pp. 100-104, June **2011**. ISBN: 978-81-909853-0-7.
 3. **K.S. Balamurugan**, S.V.K. Varma and S. Masthanrao, “Chemical Reaction and Hall effects on MHD convection flow along an infinite vertical porous plate with variable suction and heat generation”. **Proceedings of National Conference on Recent Advances in Mechanical Engineering (NCRAME)**, Organized by Department of Mechanical Engineering R.V.R & J.C College of Engineering, Guntur, A.P. India, pp. 30-33, July **2011**.
 4. **K.S. Balamurugan**, S.V.K. Varma and K. Rama Krishna Prasad, “Chemical Reaction and Thermal diffusion effects on three dimensional hydromagnetic mixed convective flow along an infinite vertical porous plate with dissipation”. **Proceedings of National Conference on Recent Advances in Mechanical Engineering (NCRAME)**, Organized by Department of Mechanical Engineering R.V.R & J.C College of Engineering, Guntur, A.P. India, pp. 21-29, July **2011**.

Papers presented in Conferences and Seminars

1. Unsteady MHD convective heat and mass transfer in a boundary layer slip flow past a vertical permeable plate with thermal radiation and chemical reaction. *National conference on Recent Advances in Mathematics and its Applications* organized by Department of Mathematics, S.V. University, Tirupati on 29th August 2017.
2. Aligned magnetic field effect on unsteady MHD double diffusive free convection flow of kuvshinski fluid past a moving porous plate embedded in a porous medium with thermal radiation and heat generation. **3rd International Conference on Applications of Fluid Dynamics** organized by Department of Applied Mathematics, **ISM(IIT) Dhanbad**,

Jharkhand In Association with Department of Mathematics, University of Botswana, Botswana during December 19-21, 2016.

3. Unsteady MHD Free Convective Flow past a Moving Vertical Plate with Time Dependent Suction and Chemical Reaction in a Slip Flow Regime. **International Conference on Computational Heat and Mass Transfer**, organized by Department of Mathematics to be held on November 30 – December 2, 2015 at **National Institute of Technology, Warangal**, Telangana, India.
4. Effects of Radiation, Chemical reaction and Soret on unsteady MHD free convective flow over a vertical porous plate, UGC Sponsored one-day **National Conference on Advances in Mathematical Sciences** organized by Department of Mathematics & Statistics, K.B.N. College, Vijayawada on 28th November 2015.
5. Unsteady MHD convective heat and mass transfer flow past an inclined moving surface with heat absorption. **National Seminar on Recent Advances in Pure and Applied Mathematics**, organized by Department of Mathematics, PB Siddhartha College of Arts and Science, Vijayawada, Andhra Pradesh, during September 09-10, 2015.
6. Chemical reaction effects on MHD oscillatory flow of a conducting fluid in an asymmetric wavy channel. **National Conference on Recent Developments in Application of Mathematics in Science and Engineering**, organized by Department of Humanities and Sciences, Annamacharya Institute of Technology and Sciences, Rajampet, Andhra Pradesh, during January 10-11, 2015.
7. Chemical reaction and radiation absorption effects on MHD convective flows in a wavy channel. **XXIII Congress of APSMS and National Conference on Mathematics**, organized by Department of Sciences & Humanities, Vignan's University, Guntur during December 12-14, 2014.
8. Thermal radiation and radiation absorption effects on unsteady MHD double diffusive free convection flow of Kuvshinski fluid past a moving porous plate embedded in a porous medium with chemical reaction and heat generation. **II International Conference on Applications of Fluid Dynamics organized by Department of Mathematics**, S.V. University, Tirupati in Association with University of Botswana, Botswana during July 21-23, 2014.
9. Chemical Reaction effects on MHD free convective oscillatory flow along a moving vertical porous plate. **National Conference on Recent Development in Mathematics and its Applications** organized by Department of Mathematics, S.V. University, Tirupati on 29th January 2014.

10. Soret and chemical reaction effects on MHD flow through porous medium with constant heat and mass flux. **The 3rd International Conference of Gwalior Academy of Mathematical Sciences (ICGAMS) and 18th Annual Conference of Gwalior Academy of Mathematical Sciences**, organized by Maulana Azad National Institute of Technology, Bhopal, M. P. India, during 22-26 September, 2013.
11. Radiation absorption and Chemical reaction effects on MHD free convection flow past a vertical porous plate. **National seminar on Recent Developments in Mathematical Sciences**, organized by S.V. University, Tirupati, on 28th June 2013.
12. Chemical reaction effects on MHD free convection flow through porous medium bounded by an inclined surface. **National Seminar on Advances in Fluid Mechanics**, organized by S.V. University, Tirupati, on 30th May 2013.
13. Three dimensional flow of free convective chemically reactive and electrically conducting fluid between two parallel plates. **International Conference on Mathematical Sciences**, organized by **R.T.M. Nagpur University, Nagpur, India**, during December 28-31, 2012.
14. MHD Three dimensional flow of free convective chemically reactive fluid between two parallel plates. **15th International Conference of Physical Sciences (CONIAPS XV)** organized by **Asian Institute of Technology, Thailand**, during 9-13, December 2012.
15. Mass transfer effects on MHD free convection flow through a porous medium bounded by an inclined surface. **XXI Congress & National Conference on Applications of Mathematics in Engineering, Physical and Life Sciences**, organized by S.V. University, Tirupati, during 7-9, December **2012**.
16. Radiation absorption and Chemical reaction effects on MHD free convection flow past a vertical porous plate in a slip flow regime. **XXI Congress & National Conference on Applications of Mathematics in Engineering, Physical and Life Sciences**, organized by S.V. University, Tirupati, during 7-9, December **2012**.
17. The effects of induced magnetic field and radiation on MHD mixed convection flow over a porous vertical plate with chemical reaction in the presence of temperature gradient heat source. **XXI Congress & National Conference on Applications of Mathematics in Engineering, Physical and Life Sciences**, organized by S.V. University, Tirupati, during 7-9, December **2012**.
18. Rotation and Magnetic Field Effects on Unsteady Two-Dimensional Convective Heat and Mass Transfer past a Vertical Porous Plate with Time Dependent Suction.

International Conference on Applications of Fluid Mechanics, organized by University of Botswana, Gaborone, Botswana, during 27-28, September 2012.

19. Rotation and Magnetic Field Effects on Unsteady Two-Dimensional Convective Heat And Mass Transfer Past A Vertical Porous Plate With Time Dependent Suction. **National Seminar on Recent Trends in Fluid Mechanics NSRTFM-2012** organized by Department of Mathematics, Sri Venkateswara University, Tirupati-517502, during 14–15 March 2012.
20. Chemical Reaction and Thermo Diffusion Effects on Unsteady Hydromagnetic Free Convection Flow With Heat And Mass Transfer Past A Moving Vertical Plate With Time Dependent Suction And Heat Source In A Slip Flow Regime. **National Seminar on Recent Advances in Mathematics and its Applications**, organized by Sri Padmavathi Mahila Visvavidyalayam, Tirupati, during 02-03 March 2012.
21. Dissipation, Chemical reaction and Thermo-diffusion effects on MHD free convection flow through porous medium with constant suction. **National Seminar on Recent Developments in Mathematics**, organized by Department of Mathematics, Sri Venkateswara University, Tirupati, during 22-23 December 2011.
22. Thermal diffusion effects on three dimensional hydromagnetic mixed convective flow along an infinite vertical porous plate with dissipation. **National Conference on Applied and Engineering Mathematics (NCAEM-2011)**, organized by RNS Institute of Technology, **Bengaluru**, Karnataka during 28-30, July 2011.
23. Chemical reaction and Thermo-diffusion effects on a three dimensional MHD mixed convective flow along an infinite vertical porous plate. **National conference on Advances in Mathematical Sciences**, organized by Department of Mathematics, Sri Venkateswara University, Tirupati, during 28-29 March 2011.
24. Chemical reaction effects on a three dimensional MHD mixed convective flow with mass transfer along an infinite vertical porous plate. **National Conference On Frontiers in Fluid Mechanics**, organized by the Department of studies and Research in Mathematics, **Gulbarga University**, Gulbarga, Karnataka during 22-23 February 2011.
25. Finite Dimension in Ring Theory. **National Level Symposium On Recent Trends In Mathematical Modeling** organized by the Department of Mathematics, S.V. University, Tirupati on 20th March 2009.

26. Few Results on Finite Dimensions With Respect To Two Sided Ideals in Associative Rings. **National Conference on Mathematics and its Applications** held at S.V. University, Tirupati during 21-22 December **2006**.
27. In Associative Rings Some Results On Finite Dimensions With Respect To Ideals. **National Seminar on Algebra and its Applications** organized by the Department of Applied Mathematics, Sri Padmavathi Mahila Viswavidyalayam from 27-28 December **2006**.
28. Introduction to essential and uniform ideals in associative rings. **National Seminar on Algebra and its Applications** organized by Department of Mathematics Acharya Nagarjuna University, Nagarjuna Nagar, Guntur, during 05-06 January **2006**.

Workshops/Short term Courses/Conferences Participated

1. Participated in a 2-day National Webinar on “Mathematics Perspectives in Applied Sciences” organized by Yogi Vemana University, Kadapa, during 29-30 September 2020.
2. Participated in the International Webinar on “Advances in Statistics and Data Science for Sustainable Human Development” organized by Indian Society for Probability and Statistics and Department of Statistics, S.V. University, Tirupati during 7-10, September 2020.
3. Participated in the National Webinar on “Trends and Challenges on Computational Fluid Dynamics” organized by Department of Basic Science and Humanities, Narasaraopeta Engineering College, Narasaraopeta on 6th July 2020.
4. Participated in International Webinar on “Mathematical Modeling and Multidisciplinary Mathematics” organized by Mathematics Centre of Education, Indian Institute of Teacher Education, Gujarat on 2nd and 3rd May 2020.
5. Participated in the National Webinar on “Mathematics is Everywhere”, organized by Department of Mathematics, S.K. Arts College and H.S.K. Science Institute, Hubballi, Karnataka on 12th May 2020.
6. Participated in the National Webinar on “AI Applications and its Trends in Transforming Business”, organized by Department of Computer Science, RBVRR Women’s College, Hyderabad, Telengana on 14th May 2020.

7. Participated in “A Two Day on line Faculty Development Programme (**FDP**)” on “Project Proposals for Funding Agencies”, organized by Partician College Research Committee, Partician College of Arts and Science, Chennai on 16th and 17th May 2020.
8. Participated a (**STTP**) short term training on “MATLAB based Teaching-Learning in Mathematics, Sciences & Engineering”, organized by the Department of Electronics Engineering, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai in collaboration with Design Tech Systems Pvr, Ltd., Mumbai during 18th to 22nd May 2020.
9. Participated online one week Faculty Development Programme (**FDP**) on “Mathematical and Statistical Modelling” organized by Department of Humanities and Basic Sciences, Godavari Institute of Engineering and Technology from 26/05/2020 to 30/05/2020.
10. Participated in International Webinar on “Fluid Dynamics and its Applications” organized by Department of Mathematics, Government First Grade College, Vijayanagara, Bengaluru on 28th and 29th May 2020 in association with Department of Mathematics, Bengaluru University, Bengaluru.
11. Participated in Webinar on “New Directions in Applied Mathematics” organized by Department of Mathematics, Faculty of Science, Annamalai University, Tamil Nadu on 3rd and 4th June 2020.
12. Participated in Webinar on “Protecting Environment - Our Responsibilities” organized by Science City of Andhra Pradesh, Government of Andhra Pradesh on 5th June 2020.
13. Attended 7day International Faculty Development Programme (**FDP**) on “Mathematical Modeling in Multidisciplinary Domain” organized by Department of Mathematics, Bannari Amman Institute of Technology, Erode, Tamil Nadu from 01/06/2020 to 07/06/2020.
14. Participated in Webinar on “How to create course and course activities in open source online learning” organized by Department of Mathematics, Hindu College, Guntur, Andhra Pradesh on 14th June 2020.
15. Participated in Webinar on “Fluid Dynamics” organized by Department of Mathematics & Statistics, Manipal University, Jaipur, India, on 23rd June 2020.
16. Participated in Webinar on “Mathematical Models on Transmitting Behavior of Covid-19” organized by Department of Mathematics & Statistics, Manipal University, Jaipur, India, on 25th June 2020.
17. UGC Sponsored Two Day National Workshop on Rings and Near-Rings with special emphasis on Gamma Near-ring theory organized by Department of Mathematics,

Acharya Nagarjuna University, Guntur, Andhra Pradesh, India, during 29-30th November 2019.

18. Participated in the NPTEL workshop conducted on 07-12-2018 by IIT Madras, at RVR & JC College of Engineering, Guntur.
19. Participated in the International Symposium on Modelling of Nano Fluid Flows organized by Department of Mathematics, VIT- AP, held at VIT-AP Amaravati on 17th December 2018.
20. AICTE sponsored National Seminar on Advance in Nano composite materials and their Fabrication, organized by department of Mechanical Engineering, R.V.R. & J.C. College of Engineering, Guntur, during 02 -03rd November, **2017**.
21. Two day Faculty Development program on Introduction to R Programming conducted by ICT Academy on 16 & 17th August, 2017 held at RVR&JC College of Engineering, Guntur.
22. AICTE recognized short term course on Multimedia Tools and Utilities through ICT conducted by Computer Science Engineering department, RVR & JC College of Engineering, Guntur in association with NITTTR, Chandigarh during 27-31(one week) March, 2017.
23. Two day National seminar on **Ethics and Human values in Engineering** organized by department of Mechanical Engineering, R.V.R. & J.C. College of Engineering, Guntur during 05 -06 January, **2017**.
24. Two day workshop on **Computational Mechanics** jointly organized by department of Civil and Mechanical Engineering, R.V.R. & J.C. College of Engineering, Guntur during July 15 -16, **2014**.
25. National seminar on **Futuristic trends of Nano composites and their Fabrication** organized by Department of Mechanical Engineering, R.V.R. & J.C. College of Engineering, Guntur, during 06 – 07 September, **2013**.
26. National work shop on **Nano technology-A fuel for Chemical Industry** organized by Department of Chemical Engineering, R.V.R. & J.C. College of Engineering, Guntur during September 20 -21, **2013**.
27. Staff development program on **Mathematical Applications in Real World Problems** organized by Department of Mathematics, **S.V. National Institute of Technology, Surat**, Gujarat during December 14 -18, **2009**.
28. **International Conference on Non Commutative Rings, Group Rings, Diagram Algebras and Applications** organized by Ramanujan Institute for Advanced Study in

Mathematics, University of Madras, India & Centre of Ring Theory and its Applications, Ohio University, U.S.A held at Ramanujan Institute for Advanced Study in Mathematics, University Of Madras, India during 18-22 December, **2006**.

29. Workshop on **Recent Trends in Mathematics Applied to Science and Technology** organized by Gudlavalleru Engineering College, Gudlavalleru, during 20-22 April **2006**.
30. Workshop on **Recent Trends in Mathematics and its Application in Engineers** organized by the Freshman Engineering Department, Koneru Lakshmaiah College of Engineering, Guntur on 17th September **2005**.
31. Workshop on **Lattice Theory** organized by department of Mathematics, Bapatla Engineering College, Bapatla on 25th July **2004**.
32. **UGC Seminar on Current Computer & Information Trends** organized by the department of CSE IT & MCA, R.V.R & J.C College of Engineering, Guntur during 28-29 December **2001**.
33. Short term course on **Finite Element Method** organized by department of Civil Engineering, R.V.R & J.C College of Engineering, Guntur during 5-6 October, **2001**.
34. **UGC Sponsored Orientation Programme** conducted by an Academic Staff College, Sri Venkateswara University, Tirupathi during 12-18 July **2000**.
35. **AICTE** induction training programme conducted by Academic Staff College, **Aligarh Muslim University**, Aligarh during 08-28 May **1998**.

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