

## CURRICULUM VITAE

**Name** : Dr. Archana M

**Objective** : Teaching /Research

**POSTAL ADDRESS** : Department of Mathematics,  
S. K. Arts College and H. S. K. Science  
Institute, Vidyanagar,  
Hubballi

**EMail** :archanammsc2010@gmail.com

**NATIONALITY** : INDIAN

**MARITAL STATUS** : Married

**EDUCATIONAL QUALIFICATION** : M.Sc. (2010), Ph.D. (2018)

**AREA OF THE RESEARCH WORK** : Computational Fluid Dynamics, heat and  
Mass Transfer, Newtonian/non-  
Newtonian fluid flows, Nanofluid

**RESEARCH EXPERIENCE** : From 2015 to till date

**TEACHING EXPERIENCE** : From 2012 to 2014 and from 2018 to till  
date

**MEMBER FOR PROFESSIONAL BODIES** :

(1) Member in Ramanujan Mathematical Society, Tiruchirapalli.

**SUBJECTS TAUGHT AT UG LEVEL** : Linear Algebra, Geometry, Algebra and  
Analysis, Sequences and Series, Real  
Analysis, Complex Analysis

**COMPUTER LITERACY** : LaTeX, Origin, Maple, Scilab, MS Office

### PUBLICATIONS IN JOURNALS:

- 1) Unsteady squeezed Casson nanofluid flow by considering the slip condition and time-dependent magnetic field, Heat Transfer, 49(8) (2020) 4907-4922.
- 2) Analysis of unsteady flow of blood conveying iron oxide nanoparticles on melting surface due to free convection using Casson model, Heat Transfer, 50(1) (2020) 279-291.

- 3) "Impact of nonlinear thermal radiation on magnetohydrodynamic three dimensional boundary layer flow of Jeffrey nanofluid over a nonlinearly permeable stretching sheet", *Physica A: Statistical Mechanics and its Applications*, 549 (2020) 124051. (North-Holland)
- 4) "Comparative study of SiO<sub>2</sub> and TiO<sub>2</sub> nanoparticles on flow and heat transfer of dusty fluid over a stretching sheet", *Multidiscipline Modeling in Materials and Structures*, 15(5) (2019) 990-1005. (Emerald)
- 5) "Significance of Temperature Dependent Viscosity, Nonlinear Thermal Radiation and Viscous Dissipation on the Dynamics of Water Conveying Cylindrical and Brick Shaped Molybdenum Disulphide Nanoparticles", *International Journal of Applied and Computational Mathematics*, 5(3) (2019) 71. (Springer India)
- 6) "Effect of variable viscosity on Marangoni convective boundary layer flow of nanofluid in the presence of mixed convection", *Journal of Nanofluids*, 8(4) (2019) 845-851. (American Scientific Publishers)
- 7) "Effect of variable fluid properties on magnetohydrodynamic flow of nanofluid past a flat plate", *Journal of Nanofluids*, 8(3) (2019) 520-525. (American Scientific Publishers)
- 8) "Heat and Mass Transfer Analysis of Casson Nanofluid Flow Past a Static/Moving Vertical Plate with Heat Radiation", *Journal of Nanofluids*, 8(3) (2019) 543-549. (American Scientific Publishers)
- 9) "Exploration of activation energy and Binary chemical reaction effects on Nano Casson fluid flow with thermal and exponential space-based heat source", *Multidiscipline Modeling in Materials and Structures*, 15(1) (2018) 227-245. (Emerald)
- 10) "Triple diffusive flow of Casson nanofluid with buoyancy forces and nonlinear thermal radiation over a horizontal plate", *Archives of Thermodynamics*, 40(1) (2019) 49-69.
- 11) "Thermodynamics analysis of a Casson nanofluid flow through a porous microchannel in the presence of hydrodynamic slip: a model of solar radiation" *Journal of Nanofluids*, 8(1) (2019) 63-72.
- 12) "Triple diffusive flow of nanofluid with buoyancy forces and nonlinear thermal radiation over a horizontal plate", *Heat Transfer—Asian Research*, 47(8) (2018) 957-973.
- 13) "Variable viscosity effects on third-grade liquid flow in post-treatment analysis of wire coating in the presence of nanoparticles", *International Journal of Numerical Methods for Heat & Fluid Flow*, 28(10) (2018) 2423-2441. (Emerald)
- 14) "Influence of nonlinear thermal radiation on rotating flow of Casson nanofluid", *Nonlinear Engineering*, 7(2) (2018) 91-101. (De Gruyter)

- 15) "Cross diffusion effect on MHD mixed convection flow of nonlinear radiative heat and mass transfer of Casson fluid over a vertical plate", *Results in Physics*, 8 (2018) 694-701. (Elsevier)
- 16) "Bidirectionally stretched flow of Jeffrey liquid with nanoparticles, Rosseland radiation and variable thermal conductivity", *Archives of Thermodynamics*, 39 (2018) 33-57.
- 17) "Three-dimensional boundary layer flow and heat transfer of a dusty fluid towards a stretching sheet with convective boundary conditions", *Journal of Computational and Applied Research in Mechanical Engineering*, 8(1) (2018) 25-38.
- 18) "MHD three dimensional double diffusive flow of Casson nanofluid with buoyancy forces and nonlinear thermal radiation over a stretching surface", *International Journal of Numerical Methods for Heat & Fluid Flow*, 27(12) (2017) 2858-2878. (Emerald)
- 19) "Numerical exploration of the combined effects of nonlinear thermal radiation and variable thermo-physical properties on the flow of Casson nanofluid over a wedge". *Multidiscipline Modeling in Materials and Structures*, 13(4) (2017) 628-647.
- 20) "Influence of nonlinear thermal radiation and magnetic field on three dimensional flow of a Maxwell nanofluid", *Journal of Nanofluids*, 6(2) (2017) 232-242.
- 21) "Effects of nonlinear thermal radiation and second order slip on Casson nanofluid flow between parallel plates", *Defect and Diffusion Forum*, 377 (2017) 84-94.

### **Details of Papers Presented in International Conferences**

1. Presented the paper entitled "MHD three dimensional double diffusive flow of Casson nanofluid with buoyancy forces and nonlinear thermal radiation over a stretching surface" in International Conference on 'Computational Fluid Flow and Heat Transfer' organized by Osmania University, Hyderabad held on 28<sup>th</sup> -29<sup>th</sup> March 2018.
2. Presented the paper entitled "Numerical exploration of the combined effects of nonlinear thermal radiation and variable thermo-physical properties on the flow of Casson nanofluid over a wedge" in International Conference on 'Recent Advances in Physical Sciences and Future Challenges' organized by Osmania University, Hyderabad held on 14<sup>th</sup> -16<sup>th</sup> July 2017.
3. Presented the paper entitled "Three dimensional flow of Jeffrey nanofluid with variable thermal conductivity and nonlinear thermal radiation" in International Conference on 'Mathematical Modelling' organized by DON BOSCO Institute of Technology, Bengaluru held on 23<sup>rd</sup> -24<sup>th</sup> December 2016.

4. Presented the paper entitled “Three dimensional flow of a Maxwell nanofluid in the presence of nonlinear thermal radiation” in International Conference on ‘Differential Geometry, Analysis and Fluid Mechanics’ organized by Kuvempu University, Shivamogga held on 4<sup>th</sup>-5<sup>th</sup> February 2016.

#### **Details of Papers Presented/Attended in National Conferences**

1. Presented the paper entitled “Comparative study of SiO<sub>2</sub> and TiO<sub>2</sub> nanoparticles on flow and heat transfer of dusty fluid over a stretching sheet” in National Conference on “Industrial Applications of Mathematics and its developments” organized by Kuvempu University held on 13<sup>th</sup> -14<sup>th</sup> March 2019.
2. Presented the paper entitled “Effect of Variable Viscosity on Marangoni Convective Boundary layer Flow of Nanofluid in the presence of Mixed Convection” in National Conference on ‘Recent Trends in Applied Sciences and Computing Engineering’ organized by Dept. of Mathematics, JNNCE, Shivamogga held on 26<sup>th</sup> -27<sup>th</sup> July 2019.
3. Presented the paper entitled “Significance of Temperature Dependent Viscosity, Nonlinear Thermal Radiation and Viscous Dissipation on the Dynamics of Water Conveying Cylindrical and Brick Shaped Molybdenum Disulphide Nanoparticles” in National Conference on ‘Recent Developments of Mathematics in Industrial Applications’ organized by Kuvempu University held on 11<sup>th</sup> -12<sup>th</sup> April 2019.
4. Participated in National Conference on ‘Recent Trends and Explorations in Mathematics’ organized by The National College, Bangalore held on 4<sup>th</sup> Oct 2018.
5. Presented the paper entitled “Influence of viscous dissipation, Joule heating on rotating flow of Casson nanofluid” in National Conference on ‘Recent Advances in Mathematical Sciences and Applications’ organized by Tumkur University held on 1<sup>st</sup>-2<sup>nd</sup> December 2017.
6. Presented the paper entitled “MHD flow and heat transfer of a Maxwell nanofluid with variable fluid properties’ in National Conference on ‘An Insight into Analysis and Applications of Mathematics’, organized by The National College (Auto), Bengaluru held on 24<sup>th</sup> August 2016.
7. Presented the paper entitled “MHD flow and heat transfer of a Maxwell nanofluid with variable fluid properties” in National Conference on ‘Geometry, Topology and their Applications’ organized by Karnatak University held on 3<sup>th</sup>-4<sup>th</sup> August 2016.
8. Participated in National Conference on ‘Pure and Applied Mathematics’ organized by Sahyadri Science College, Shimogga held on 29<sup>th</sup> Sept 2014.

### **Details of Papers Presented/Attended in Seminar**

1. Participated in State Level seminar on 'Advances in Mathematics and its Application' organized by Sahyadri Science College (Auto), Shivamogga held on 24<sup>th</sup> March 2017.
2. Participated in National seminar on 'Recent Developments in Nano Materials and their Applications' organized by Kuvempu University, Shivamogga held on 18<sup>th</sup> -19<sup>th</sup> March 2016.
3. Presented the paper entitled "Influence of nonlinear thermal radiation and magnetic field on three dimensional Maxwell nanofluid' in National Seminar on 'Recent Advances in Mathematics and its Applications', organized by JSS College of Arts, Commerce and Science, Mysuru held on 18<sup>th</sup> -19<sup>th</sup> February 2016.
4. Participated in State Level seminar on 'Applied Mathematics, Linear Algebra and its Applications' organized by Sahyadri Science College (Auto), Shivamogga held on 14<sup>th</sup> Sept 2013.

### **Details of FDP/Workshop/Course Attended**

1. Participated in Faculty Development Programme from 2020-09-04 to 2020-09-10 on Moodle Learning Management System offered by the Spoken Tutorial Project, IIT Bombay, funded by the National Mission on Education through ICT, MHRD, Govt. of India.
2. Attended 4-Week Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education" organized by Teaching Learning Centre, Ramanujan College, University of Delhi, under the aegis of Ministry of Human Resource Development, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.
3. MATLAB Onramp Course was completed on 15<sup>th</sup> May 2020 conducted by MathWotks Training Services.
4. Participated in FDP (A MHRD Government of India Initiative) conducted by FDC PMMMNMTT on 'Cyber Security and Data Sciences' organized by JT College, Gadag held on 16<sup>th</sup> -21<sup>st</sup> Sept 2019.
5. Participated in FDP on 'Applications of Mathematics in Engineering and Science' organized by PESITM, Shivamogga held on 29<sup>th</sup> April 2019.
6. Participated in One Week National Level Workshop on 'Differential Geometry and its Applications in Engineering Fields' organized by JNNCE held on 21<sup>st</sup> - 25<sup>th</sup> Jan 2019.

7. Participated in 3 days University Level Workshop on 'Free and Open Source Mathematics Software' organized by Kuvempu University, Shivamogga held on 23<sup>rd</sup>-25<sup>th</sup> June 2018.
8. Participated in Science Academies' Lecture Workshop on 'Computational Fluid Dynamics' organized by Kuvempu University, Shivamogga held on 21<sup>st</sup> -22<sup>nd</sup> October 2016.
9. Participated in FDP on 'ICT Enabled Teaching in Higher Education' organized by Sahyadri Science (Auto) College, Shivamogga held on 28<sup>th</sup> March 2015.