

Profile

Dr. G Janardhana Reddy

The President's Inspired Teacher (https://en.wikipedia.org/wiki/Inspired_Teacher)

*Assistant Professor & Coordinator,
Department of Mathematics,
School of Physical Sciences,
Central University of Karnataka, Kalaburagi.*

Specializations: Finite difference methods, Computational Fluid Dynamics, Heat and Mass Transfer problems, Non-Newtonian fluids, Magneto Hydrodynamics, Flow Visualization Techniques, Supercritical Fluids.

Message: Save Water, Save Power, Plant Trees and Save Nature for next Generation.

Educational Background:

- Ph.D. (2009-2012) from NIT Warangal in the area of Computational Fluid Dynamics & the thesis title is "Transient couple stress fluid flow past a Vertical Cylinder". Supervisor: Dr. H. P. Rani
- M.Sc. (Applied Mathematics) (2004-2006) from NIT Warangal, Telangana.
- B.Sc. (Mathematics, Physics & Computer Science) (2001-2004) from St. Joseph's Degree College (Affiliated to Sri Krishnadevaraya University), Kurnool, Andhra Pradesh.

Courses Taught in Central University of Karnataka (Since 2013):

- Finite Difference Methods
- Partial Differential Equations
- Computing Laboratory (MATLAB)
- Boundary Layer Theory
- Finite Element Method
- Computational Fluid Dynamics
- Real Analysis
- Finite Volume Method
- Ordinary Differential Equations
- Partial Differential Equations
- Numerical Analysis
- Fluid Mechanics
- Research Methodology
- Continuum Mechanics

- Computational Fluid Dynamics
- Linear Algebra
- Operations Research
- Engineering Mathematics I
- Complex Analysis
- Integral Transforms
- Basic Mathematics
- Numeracy
- Computational Physics

Courses Taught in NIT Warangal and Other Engineering Colleges:

- Engineering Mathematics-I
- Engineering Mathematics-II
- Engineering Mathematics-III
- Mathematical Methods
- Discrete Mathematics
- Mathematical Foundations for Computer Science
- Numerical Methods

RESEARCH PUBLICATION LIST

Publications in International Journals:

1. H. P. Rani, G Janardhana Reddy, C.N. Kim (2013), The effect of the Couple Stress Parameter and Prandtl number on the Transient Natural Convection Flow over a Vertical Cylinder, Accepted for publication in *Acta Mechanica Sinica* (Springer Journal SCI) (Impact factor: 0.887).
2. H. P. Rani and G Janardhana Reddy (2013), Heatline visualization for conjugate heat transfer of a couple stress fluid from a vertical slender hollow cylinder, Article in Press, <http://dx.doi.org/10.1016/j.icheatmasstransfer.2013.08.015>, *International Communications in Heat and Mass transfer* (Elsivier Journal SCI) (Impact factor: 2.782).
3. H. P. Rani, G Janardhana Reddy and Chang Nyung Kim (2013), Transient analysis of diffusive chemical reactive species for couple stress fluid flow over a vertical cylinder, *Applied Mathematics and Mechanics (English Edition)*, Vol. 34(8), pp. 985-1000. (Springer Journal SCI) (Impact factor: 1.128).
4. H. P. Rani and G Janardhana Reddy (2013), Soret and Dufour effects on transient double diffusive free convection of couple stress fluid past a vertical cylinder, Accepted for publication in *Journal of Applied Fluid Mechanics* (SCI Journal) (Impact factor: 0.746).

5. H. P. Rani, G Janardhana Reddy and Chang Nyung Kim (2013), Conjugate Transient Free Convective Couple Stress Fluid Flow from a Vertical Slender Hollow Cylinder, Accepted for publication in *Progress in Computational Fluid Dynamics, An International Journal (PCFD)* (SCI Journal) (Impact factor: 0.688).
6. H. P. Rani, G Janardhana Reddy, C.N. Kim (2011), Numerical analysis of couple stress fluid past an infinite vertical cylinder, *Engineering Applications of Computational Fluid Mechanics*, Vol.5(2), pp. 159-169. (SCI Journal) (Impact factor: 0.989).
7. H. P. Rani and G Janardhana Reddy (2013), Transient free convective conjugate heat transfer from a vertical slender hollow cylinder, *International Review of Mechanical Engineering (IREME)*, Vol. 7(1), 207-216. (Global Impact factor: 0.765).
8. H. P. Rani and G Janardhana Reddy (2012), MHD-Conjugate Heat Transfer Analysis For Transient Free Convective Flow Past a Vertical Slender Hollow Cylinder, *American Journal of computational and applied mathematics*, 2(2), 33-41.
9. H. P. Rani and G Janardhana Reddy (2011), Conjugate transient free convective heat transfer from a vertical slender hollow cylinder with heat generation effect, *Applied Mathematics*, 1 (2), 90 - 98.
10. H. P. Rani, G Janardhana Reddy, C.N. Kim and Y. Rameswar (2015), Transient Couple Stress Fluid past a Vertical Cylinder with Bejan's Heat and Mass Flow Visualization for Steady-State. *ASME Transactions Journal of Heat Transfer*, 137 (3), 032501 (Impact factor: 2.055) (SCI Journal).
11. G Janardhana Reddy, B Kethireddy, M Kumar, MM Hoque (2018), A molecular dynamics study on transient non-Newtonian MHD Casson fluid flow dispersion over a radiative vertical cylinder with entropy heat generation. *Journal of Molecular Liquids* 252, 245-262.
12. G Janardhana Reddy, B Kethireddy, JC Umavathi, MA Sheremet (2018). Heat flow visualization for unsteady Casson fluid past a vertical slender hollow cylinder, *Thermal Science and Engineering Progress* 5, 172-181.
13. G Janardhana Reddy, B Kethireddy, H.P. Rani (2018). Bejan's Heat Flow Visualization for Unsteady Micropolar Fluid Past a Vertical Slender Hollow Cylinder with Large Grashof Number, *International Journal of Applied and Computational Mathematics* 4 (1), 39.
14. G Janardhana Reddy, A Hiremath, M Kumar (2018). Computational modeling of unsteady third-grade fluid flow over a vertical cylinder: A study of heat transfer visualization, *Results in Physics* 8, 671-682.
15. G Janardhana Reddy, H. Basha, N.S.V. Narayanan (2018). Heat flow visualization of a chemical compound isobutane (C₄H₁₀) past a vertical cylinder in the subcritical, near-critical and supercritical regions, *Journal of Molecular Liquids*. (Accepted).

16. G Janardhana Reddy, M. Kumar, J.C. Umavathi, M.A. Sheremet (2018). Transient Entropy Analysis for the Flow of a Second Grade Fluid Over a Vertical Cylinder, *Canadian Journal of Physics* (Accepted).
17. G Janardhana Reddy, H. Basha, N.S.V. Narayanan (2018). A numerical investigation of transient natural convective heat transfer to isobutane in the supercritical region, *Journal of Molecular Liquids* 250, 131-149.
18. G Janardhana Reddy, M. Kumar, B. Kethireddy, A. J. Chamkha (2018). Colloidal study of unsteady magnetohydrodynamic couple stress fluid flow over an isothermal vertical flat plate with entropy heat generation, *Journal of Molecular Liquids*, 252, 169-179.
19. J. C. Umavathi, M. A. Sheremet, O. Ojjela, G Janardhana Reddy (2017). The onset of double-diffusive convection in a nanofluid saturated porous layer: Cross-diffusion effects, *European Journal of Mechanics-B/Fluids* 65, 70-87.
20. G Janardhana Reddy, H. Basha, N.S.V. Narayanan (2018). A Numerical Investigation of Transient Natural Convection Heat Transfer to CO₂ in the Supercritical Region, *ASME Transactions Journal of Heat Transfer* (Accepted).

Publications in International Proceedings:

1. H.P. Rani, G. Janardhana Reddy (2011) “Analysis of heatlines and masslines for transient natural convection-radiation interaction on hydromagnetic flow of a couple stress fluid past a vertical cylinder”, Dec. 27-30th, 2011. Paper No.ISHMT_IND_01_032, pp.1-6. 21st National and 10th **ISHMT-ASME** Heat and Mass Transfer Conference, organized by IIT Madras.
2. H.P. Rani, G. Janardhana Reddy (2010) “Radiation and Mass Transfer effects on unsteady MHD flow of couple stress fluid past an infinite vertical cylinder”, Dec. 18-21st 2010. pp. 89-93. 55th Congress of the Indian society of theoretical and applied mechanics (ISTAM), NIT Hamirpur, India.
3. H.P. Rani and G. Janardhana Reddy, Heatlines and masslines visualization for unsteady couple stress fluid flow past a vertical cylinder, Published in International Conference on Mathematical Modeling and Applied Soft Computing (MMASC) 11-13 July 2012, pp. 1013-1023.
4. G Janardhana Reddy, Bhaskerreddy Kethireddy and H. P. Rani, Bejan’s Flow Visualization for Conjugate Heat Transfer From a Vertical Cylinder, *Proceedings of 59th Congress of ISTAM (<http://istam.iitkgp.ac.in>)*, Vol. 59-istam-fm-fp-263, pp.1-8, 2015.
5. G Janardhana Reddy, Bhaskerreddy Kethireddy (2017), Transient micropolar fluid past a vertical cylinder with Bejan’s heat and mass flow visualization, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2017), December 27-30, 2017, BITS Pilani, Hyderabad, India.IHMTTC2017-09-0932.
6. G Janardhana Reddy, Hussain Basha (2017), Heatline visualization of transient free convection supercritical fluid flow over a vertical plate, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2017), December 27-30, 2017, BITS Pilani, Hyderabad, India. IHMTTC2017-09- 0516.

Training Courses, Faculty Development Programme attended:

1. Inspired Teachers In-Residence Programme, Rashtrapati Bhavan, New Delhi, June 6-12, 2015.
2. STTP on Mathematical Modelling and Numerical Techniques, 17-21st Jan. 2011 organised by Department of Mathematics, NITW. (One week)
3. “Prof. S. Minakshi Sundaram Memorial Society and One day seminar on Challenges in Current Mathematics Research” conducted at NIT Warangal on Oct. 22, 2010.
4. “Engineering Mathematics with Mathematica” Conducted by Wolfram Research on Feb 14th 2013.
5. “Faculty Development Programme on Teaching Methods” by GITAM University, Hyderabad on June 27-28, 2013.

Papers presented in Conferences:

1. G. Janardhana Reddy (2010), “Finite difference analysis of couple stress fluid past an infinite vertical cylinder”, International congress of Mathematicians (ICM) 2010, Aug. 19-27, Department of Mathematics, University of Hyderabad, Hyderabad, India.
2. G. Janardhana Reddy, (2010), “Hydrodynamic stability of free convection from an inclined elliptic cylinder in couple stress fluid”, International congress of Mathematicians (ICM) 2010, Aug. 19-27, Department of Mathematics, University of Hyderabad, Hyderabad, India.
3. G. Janardhana Reddy (2011) “Analysis of heatlines and masslines for transient natural convection-radiation interaction on hydromagnetic flow of a couple stress fluid past a vertical cylinder”, Dec. 27-30th, 2011, 21st National and 10th **ISHMT-ASME** Heat and Mass Transfer Conference, organized by IIT Madras.
4. G. Janardhana Reddy, Radiation and mass transfer effects on unsteady MHD flow of couple stress fluid past an infinite vertical cylinder, 55th Congress of the Indian society of theoretical and applied mechanics (**ISTAM**) proceedings, National Institute of Technology, Hamirpur, Dec. 18-21, 2010, India.
5. G. Janardhana Reddy, H. P. Rani, Finite difference analysis of couple stress fluid past an infinite vertical cylinder with chemical reaction effects, XIX Congress and National Conference on Mathematical aspects of cryptography and Network Security (APSMS) JITS, Karimnagar Nov. 12-14, 2010, India.
6. G. Janardhana Reddy, Boundary layer flow of a couple stress fluid past an infinite vertical cylinder, 5th National conference on Applicable Mathematics in wave mechanics and vibrations, Kakatiya University March 13-15, 2010, Warangal, India.
7. G. Janardhana Reddy, Finite difference analysis of couple stress fluid flow past a vertical cylinder with heat and mass transfer, Conference on new vistas in computational fluid dynamics in engineering, NIT Warangal, Jan 27-29, 2012.
8. G. Janardhana Reddy, Bhaskerreddy Kethireddy and H. P. Rani, Bejan’s Flow Visualization for Conjugate Heat Transfer From a Vertical Cylinder, 59th Congress of **ISTAM** (<http://istam.iitkgp.ac.in>) organized by IIT Kharagpur, Dec 16-20 2014.

Participation in Workshops:

1. National Workshop on “Advanced Computational Applications using ANSYS FLUENT” on Jan. 7, 2011 conducted at NIT Warangal.
2. “First Indo-US Joint NSF Workshop on Energy-Water Sustainability” on Dec 27, 2011, Indian Institute of Technology Madras.
3. Science Academies Lecture Workshop On “Current Trends in Nanoscience and Technology” 23rd - 24th December 2011 (SALWCTNST-2011) in National Institute of Technology Warangal.
4. A Two-Day National Workshop on “Advanced Medical Applications using MIMICS Software”, organized by Department of Mechanical Engineering, NITW, Oct. 8-9-2010.
5. National Workshop on “Computational methods with Splines” on March 20-21,2009 conducted at NIT Warangal.

Guest/Invited Lectures:

1. Delivered two invited lectures on Limit of Real and Complex Valued Functions, Interpolation in “Special Lecture Series on Mathematical Science” Organized by Gulbarga University, Kalaburagi, Dec 31 2015.
2. Delivered Invited Talk on “Introduction to Matlab Programming, Simulink and Signal Processing Tool Box” in the one week workshop on “Matlab for Engineering Applications” organized by Sree Chaitanya College of Engineering, Affiliated to JNTU University, Dec 5 2015.
3. Delivered Invited Talk on “Use of Computers and Softwares” in Research Methodology workshop organized by Central University of Karnataka, Kalaburagi, November 17 2015.
4. Participated as Invited Speaker and delivered two invited lectures on Limit of Real and Complex Valued Functions at Bangalore University (UGC Sponsored Refresher Course).
5. Delivered lectures on Tecplot 360 CFD Software at IIT Bhuvanewar.
6. Delivered guest lecture on MATLAB BASICS in the two-day National work shop on “Applications of Matlab in Electrical Engineering” conducted by Sree Chaitanya college of Engineering, Karimnagar, Affiliated to JNTU University, March 10-12, 2013.
7. Delivered guest lecture on MATLAB BASICS & SIMULINK in the two-day National work shop on “Applications of Matlab in Power systems” conducted by Sree Chaitanya Institute of Technological Sciences, Karimnagar, Affiliated to JNTU University, April 7-8, 2013.

Social Activities:

- Attended as a Chief Guest for “Teachers Day Celebrations” and Inspired the Engineering Students in Shetty Institute of Technology, Kalaburagi, Sep 5, 2015.

- Attended as a Chief Guest for “Mathematics Week Celebrations” and Inspired the students in Swami Narayanan Gurukul International School, Kalaburagi, June 2015.
- Actively Participated in Swatch Bharat Abhiyan organized by the Schools of Sciences and Engineering, Central University of Karnataka, Kalaburagi, October 15 2015.
- Spent Rs.10, 000 for Planting Trees in my native village (Kunukuntla, Kurnool Dist.) to save the Nature.
- Donated Rs. 3,100/- to “Maa Illu Prajadhara Ashramam, Warangal” for purchasing Books to Childrens.
- Donated one day salary to Jammu and Kashmir Flood Victims in October 2014.

STTP/Conference/Workshops/Events Organized:

- Organized (as Convener) a three day National Level Workshop on Basic Matlab Programming and Simulink at the Central University of Karnataka, Kalaburagi, May 6-8, 2015. (Total Participants: 76)
- Organized (as Convener) a two day National Level Workshop on Innovative Research Techniques at the Central University of Karnataka, Kalaburagi, November 25-26, 2016. (Total Participants: 123)
- Organized (as Coordinator) the event “National Mathematics Day 2015” at the Central University of Karnataka, Kalaburagi, December 15 2015.
- Organized (as Coordinator) the event “International Mathematics PI Day 2017” at the Central University of Karnataka, Kalaburagi, March 17 2016.

Merits/ Honors:

- Inspired Teacher recognition by the current President of India, Shri Pranab Mukherjee on June 6th 2015.
- Received merit scholarship prize during my M.Sc level at NIT Warangal.
- Received college topper prize during at my B.Sc level.
- Achieved 90.50% of marks in B.Sc level.
- Achieved 89% of Marks in M.Sc level.
- All India Gate Rank 219 with 91.63%.
- Received JRF & SRF fellowship from MHRD during Research Period in NIT Warangal.

Life Membership/Fellowship of accredited bodies:

- International Association of Mathematical Physics (IAMP)
- Indian Society for Heat and Mass Transfer (ISHMT)
- Andhra Pradesh Society of Mathematical Sciences (APSMS)
- Indian Society of Theoretical and Applied Mechanics (ISTAM)

President's Inspired Teacher:

On 6th June 2015, I had been recognized as President's Inspired Teacher by the President of India, Shri Dr. Pranab Mukherjee. I stayed at Rashtrapati Bhavan, New Delhi for a week as part of the invited in-residence program for Inspired Teachers by the President.



Inspired Teachers In-Residence Program detailed Information, Photos and Videos are available in the President of India website.

1. <http://presidentofindia.nic.in/cuinspiredteachers.htm>
2. https://en.wikipedia.org/wiki/Inspired_Teacher

Teaching Experience:

- Working as an Assistant Professor in the Dept. of Mathematics, Central University of Karnataka, Kalaburagi, Karnataka since 2013.
- Worked as an Associate Professor in the Dept. of Mathematics, Sree Chaitanya College of Engineering, Affiliated to JNTU University, Karimnagar, Telangana from 2012 to 2013.
- Worked as a Teaching Assistant in the Dept. of Mathematics, National Institute of Technology Warangal, Telangana from 2009 to 2012. (Duration of PhD Program).
- Worked as an Assistant Professor in the Dept. of Mathematics, Sree Chaitanya College of Engineering, Affiliated to JNTU University, Karimnagar, Telangana from 2008 to 2009.
- Worked as an Assistant Professor in the Dept. of Mathematics, Jyothismathi Institute of Technology and Science, Affiliated to JNTU University, Karimnagar, Telangana from 2006 to 2007.

PhD. Supervising:

- Mr. Bhaskerreddy Kethireddy (July 2014 – Till date) (Synopsis Presentation Completed)
- Mr. Mahesh Kumar (August 2015 – Till date) (DST-INSPIRE Fellowship)
- Mr. Hussain Basha (August 2015 – Till date) (Maulana Azad UGC Fellowship)
- Ms. Ashwini Hiremath (July 2016 – Till date) (DST-INSPIRE Fellowship)

Professional Administrative Responsibilities:

- Coordinator, Department of Mathematics, Central University of Karnataka, Kalaburagi, November 2013 – Till date.
- Board of Studies Chairman & Convener, Department of Mathematics, Central University of Karnataka, Kalaburagi, April 2015 – Till date.
- Convener, Inspired Teachers Network, Central University of Karnataka, Kalaburagi, November 23 2015 – Till date.
- Member, Accreditation committee (NAAC), Department of Mathematics, Central University of Karnataka, Kalaburagi, July 2014 – Till date.
- Member, MOOCS Committee, Department of Mathematics, Central University of Karnataka, Kalaburagi, 10th July 2015 – Till date.
- Member, Credit Marks for Academic Electives, CBSE, Central University of Karnataka, Kalaburagi, 8th July 2015 - Till date.

- Member, Reception & Protocol Committee, Invitation Committee, Robing and Gown Committee, Certificate Committee, 2nd Convocation, Dec 22 2015.
- Member, Purchasing of Electronics, Computers and Softwares, Central University of Karnataka, Kalaburagi, 2014.
- Member, LPC Committee, Department of Mathematics, Central University of Karnataka, Kalaburagi, 2015.
- Member, LPC Committee, Department of Chemistry, Central University of Karnataka, Kalaburagi, 2015.
- Prepared the setting of Question Papers of M.Sc, PhD Mathematics, RAT, UG for CUK Entrance Tests for the years 2014 & 2015.
- Prepared the Prospectus of Department of Mathematics, Central University of Karnataka, Kalaburagi for the years 2014 & 2015.
- Prepared the Annual Report of Department of Mathematics, Central University of Karnataka, Kalaburagi for the years 2013, 14 &15.

Competence in computer application:

- C, C++, Oracle, HTML
- Mathematica
- TECPLOT 360
- Matlab
- ANSYS-Fluent
- Fortran
- Origin
- Maple
- Latex
- Mendley

Research Grants:

Principal Investigator	National \Internat ional funding	Grants Received	Funding Agency	Project Title
Dr.G.Janardhana Reddy	National	CSIR UGC-BSR Start-UP Grant (Rs. 6 Lakh)	UGC'S FRPS	Bejan's heat and mass flow visualization for transient micropolar fluid flow past a vertical slender hollow circular cylinder

PERSONAL INFORMATION:



Sex: Male
Category: General
Present Address: Assistant Professor & Coordinator,
Department of Mathematics,
School of Physical Sciences,
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