# 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.*

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

**Message:** Save Water, Save Power, Plant Trees, Avoid Using Plastic 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 Currently Being Taught in CUK (July – December 2016):**

- Real Analysis (M.Sc Mathematics I Sem)
- Ordinary Differential Equations (M.Sc Mathematics I Sem)
- Transformation Techniques (M.Sc Mathematics III Sem)
- Advanced Numerical Methods (FDM) (M.Sc Mathematics III Sem)
- Computing Laboratory (Matlab) (M.Sc Mathematics III Sem)
- Fluid Mechanics (PhD Mathematics I Sem)
- Research Methodology (PhD Mathematics I Sem)

**Courses Taught Previously in CUK (Since November 2013):**

- Partial Differential Equations ( M.Sc Mathematics II Sem) (2016)
- Finite Difference Methods (M.Sc Mathematics IV Sem, PhD II Sem)(2016)
- Ordinary Differential Equations (M.Sc Mathematics I Sem)(2015)

- Partial Differential Equations (M.Sc Mathematics III Sem)(2015)
- Numerical Analysis (M.Sc Mathematics IV Sem, PhD I Sem)(2015)
- Fluid Mechanics (PhD Mathematics I Sem)(2015)
- Research Methodology (PhD Mathematics I Sem)(2015)
- Computing Laboratory (Matlab) (M.Sc Mathematics IV Sem, PhD II Sem)(2015)(2016)
- Continuum Mechanics (PhD II Sem)(2015)
- Computational Fluid Dynamics (PhD II Sem)(2015)(2016)
- Linear Algebra (M.Sc Mathematics II Sem)(2015)
- Fluid Mechanics (M.Sc Mathematics III Sem & PhD I Sem)(2014)
- Operations Research (M.Sc Mathematics I Sem)(2014)
- Research Methodology (PhD Mathematics I Sem)(2014)
- Engineering Mathematics I (BTech)(2014)
- Computing Laboratory (M.Sc Mathematics III Sem & PhD I Sem)(2014)
- Numerical Analysis (PhD I Sem) (2014)
- Complex Analysis (M.Sc Mathematics II Sem)(2014)
- Integral Transforms (M.Sc Mathematics IV Sem)(2014)
- Matlab (M.Sc Mathematics IV Sem)(2014)
- Basic Mathematics (PhD I Sem)(Dept. of Geology & Geo Informatics)(2014)
- Numeracy (UG)(2014)
- Computational Physics (M.Sc Physics I Sem)(2013)
- Operations Research (M.Sc Mathematics I Sem)(2013)

**Courses Taught in NIT Warangal and Other Engineering Colleges:**

- Engineering Mathematics-I (NITW) (2009,2010)
- Engineering Mathematics-II (NITW) (2010,2011)
- Engineering Mathematics-III (SCCE, JITS )(JNTU Syllabus)(2006,2007,2008)
- Mathematical Methods(SCCE, JITS )(JNTU Syllabus)((JNTU)(2006,2007,2008,
- Discrete Mathematics (PG) (SCCE)(JNTU Syllabus)(2008)
- Mathematical Foundations for Computer Science(SCCE) JNTU Syllabus(2008)
- Engineering Mathematics-I (SCCE)(JNTU Syllabus) (2012,2013)
- Numerical Methods (SCCE)(JNTU Syllabus) (2012,2013)

## RESEARCH PUBLICATION LIST

**Publications in International Journals:**

1. H. P. Rani, G Janardhana Reddy, C.N. Kim and Y. Rameswar, 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 (2015) 032501-12. (SCI Journal)

2. H. P. Rani, G Janardhana Reddy**,** C.N. Kim, The effect of the Couple Stress Parameter and Prandtl number on the Transient Natural Convection Flow over a Vertical Cylinder, ***Acta Mechanica Sinica,*** 29 (2013) 649-656. (Springer Journal SCI).
3. H. P. Rani and G Janardhana Reddy, Heatline visualization for conjugate heat transfer of a couple stress fluid from a vertical slender hollow cylinder, ***International Communications in Heat and Mass transfer,*** 48 (2013) 46-52. (Elsevier Journal SCI) .
4. H. P. Rani, G Janardhana Reddy and Chang Nyung Kim, Transient analysis of diffusive chemical reactive species for couple stress fluid flow over a vertical cylinder, ***Applied Mathematics and Mechanics (English Edition)***, 34(8) (2013) 985-1000. (Springer Journal SCI).
5. H. P. Rani and G Janardhana Reddy, Soret and Dufour effects on transient double diffusive free convection of couple stress fluid past a vertical cylinder, ***Journal of Applied Fluid Mechanics,*** 6 (2013) 545-554. (SCI Journal).
6. H. P. Rani, G Janardhana Reddy and Chang Nyung Kim, Conjugate Transient Free Convective Couple Stress Fluid Flow from a Vertical Slender Hollow Cylinder, ***Progress in Computational Fluid Dynamics, An International Journal,*** 14 (2014) 316-327. (SCI Journal).
7. H. P. Rani, G Janardhana Reddy**,** C. N. Kim, Numerical analysis of couple stress fluid past an infinite vertical cylinder, ***Engineering Applications of Computational Fluid Mechanics***, 5(2) (2011) 159-169. (SCI Journal).
8. H. P. Rani and G Janardhana Reddy, Transient free convective conjugate heat transfer from a vertical slender hollow cylinder, ***International Review of Mechanical Engineering(IREME)***, 7(1) (2013) 207-216.
9. H. P. Rani and G Janardhana Reddy, 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) (2012) 33-41.
10. H. P. Rani and G Janardhana Reddy, Conjugate transient free convective heat transfer from a vertical slender hollow cylinder with heat generation effect, ***Applied Mathematics***, 1 (2) (2011) 90 - 98.

**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. 27-30$^{th}$, 2011. Paper No.ISHMT_IND_01_032, pp.1-6. 21$^{st}$ 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. 18-21$^{st}$ 2010. pp. 89-93. 55$^{th}$ 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.

**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, Dec16-20 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/Inivited Lectures:**

1. Delivered series of invited lectures (twelve) on Numerical Methods using Matlab, Two-day workshop on Numerical Methods using Matlab" Organized by SR Engineering College, Affiliated to JNTU University,Warangal, Feb 14-15, 2016.
2. 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.

3. 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.
4. Delivered Invited Talk on "Use of Computers and Softwares" in Research Methodology workshop organized by Central University of Karnataka, Kalaburagi, November 17 2015.
5. Participated as Invited Speaker and delivered two invited lectures on Limit of Real and Complex Valued Functions at Bangalore University (UGC Sponsored Refresher Course).
6. Delivered lectures on Tecplot 360 CFD Software at IIT Bhuvaneswar.
7. 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.
8. 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 Technoligical 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, Octobeer 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 Prajadharana 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 Workshop on Basic Matlab Programming and Simulink at the Central University of Karnataka, Kalaburagi, May 6-8, 2015. (Total Participants: 76)

- 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 2016" at the Central University of Karnataka, Kalaburagi, March 17 2016.

**Merits/ Honors/Awards:**

- Inspired Teacher recognition by the current President of India, Shri Pranab Mukherjee on June 6$^{th}$ 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.
- 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)
- Mr. Mahesh Kumar (August 2015 – Till date)
- Mr. Hussain Basha (August 2015 – Till date)
- Ms. Ashwini Hiremath (July 2016 – Till date)

**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, 10$^{th}$ 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 & 2016.
- Prepared the Annual Report of Department of Mathematics, Central University of Karnataka, Kalaburagi for the years 2014, 2015 & 2016.
- Member, Admissions Committee, Department of Mathematics & School of Physical Sciences for the years 2014, 2015 & 2016.

**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 | 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,
Central University of Karnataka, Kalaburagi.

Permanent Address: S/O G. Kambi Reddy,
Kunukuntla(Post),
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