

Name : Dr. P. Aparna

Designation: Associate Professor

Department: Humanities & Sciences

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Experience (in years): Teaching: 19 years Research: 15 Others (If any, Specify):

1. Educational / Technical qualifications:

| S.No | Level (UG / PG / Ph.D) | Year of passing | Specialization |
|------|------------------------|-----------------|--|
| 1 | Ph. D | 2006 | Mathematics (Fluid Dynamics) |
| 2 | M. Sc. | 1999 | Applied Mathematics |
| 3 | B.Sc. | 1996 | M.P.C |

2. Teaching and Learning:

2.1. Teaching Interests:

- Numerical Analysis
- Complex variables
- Differential Equations
- Laplace Transforms
- Z-Transforms

2.2. Novel Teaching & Learning Techniques adopted:

- Learning by doing
- WI&WIL
- Video presentations
- Mind Maps
- Concept maps

Involvement in curriculum updating / Design: A member of BOS Department committee
(Mathematics)

3. Co-curricular and Extra-Curricular Activities

3.1. Interests and Hobbies:

- Reading books
- Playing games.

3.2. CCA/ECA Organized: NIL

3.3. CCA/ECA participated:

- Sports committee (2009)
- Stage decoration committee (2012)
- Stock verification work (library)(2013)

3.4. Counseling and Mentoring Activity:

- Mentor for EIE-II (2010)
- Counseling for I year and Ilyr students.

3.5. Committees involved in:

Department level: BOS Department committee

Institute Level: Member ,Institute Library committee

4. Conference / Workshop / Seminar / Guest Lectures:

4.1 Conducted:

- Organized a Guest lecturer on “Applications of transforms in ODE’s and PDE’s “on 29 -01-2011.
- Organized a national conference on ‘Recent Advances and Applications of Mathematical Sciences to Engineering’ on 20-22nd December 2012.

4.2 Attended:

- Attended a conference on 10th Congress of Andhra Pradesh Society of Mathematical Sciences, hosted by Sri Ramakrishna Post Graduate college, Nandyal, Jan 2002.
- Attended a conference on National Seminar On The Role Of Computers In Physical Sciences, hosted by Nagarjuna University Post Graduate Centre, Nuzvid, Feb 2002.
- Attended a conference on 12th Congress of Andhra Pradesh Society of Mathematical Sciences, hosted by Osmania University, Hyderabad, Dec 2003.

- Attended a conference on 13th Congress of Andhra Pradesh Society of Mathematical Sciences, hosted by National Institute of Technology, Warangal, Dec 2004.
- Attended an international conference on Indian Society of Theoretical and Applied Mechanics, hosted by University College of Engineering , Osmania university, Hyderabad, Dec 2008.
- Attended a national conference on Recent Advances and Applications of Mathematical Sciences to Engineering, VNRVJIET, Dec 2012.
- Attended 15 days Tanning programme on Advanced Computational Methods in Thermal Engineering” at NIT, Warangal, and 15-12-2003 to 27-12-2003
- Attended a three day conference New Vistas in Computational Fluid Dynamics in Engineering”, NIT Warangal from 27th -29th January, 2012.
- Attended a three day workshop on ‘Program Design with MAPCODE’ on 27th -29th May, 2013, VNRVJIET, Hyderabad.
- Attended a two day workshop on ‘The Pedagogy of Technical Writing’ on 6&7th Sep, 2012, VNRVJIET, Hyderabad.
- Attended a three day workshop on ‘Art of Teaching’ in May,2013, VNRVJIET, Hyderabad
- Attended a one day workshop on “INTRO TO POGIL “organized by Dr.Sandhya Kode and Dr.C.Jyotsna on February 16th 2013.
- Attended all the POGIL follow up sessions organized by Dr.Sandhya.kode and Dr.C.Jyotsna conducted on March 1st and 13th, April 13th 2013.
- Attended a one day seminar on “A Binds View of Nano Science and Technology in Indian Research” by Dr.V.Brahmaji Rao on July 25th 2013.
- Attended a guest lecture on Material science organized by EEE dept at VNRVJIET in 2011.
- Attended a lecture on teaching based learning outcomes by Dr P.G. Shastry on August 11th 2012
- Attended foundation day lecture by Dr.D.N. Reddy on 21st September,2014.
- Attended a lecture on Excellence in engineering education by Dr P.Raghavendra Rao on September 28th 2012.
- Attended Engineer’s day lecture about “Our Inputs for Greener Environment” on by Dr.C.Jyotsna on September 15th 2012.
- Attended a lecture on Teaching methodologies and classroom Management by Prof Rao Unnava at VNRVJIET on 19th March 2013.
- Attended a EMS lecture on Intellectual property Rights by Dr A.S.Rao at VNRVJIET
- Attended a seminar on ‘Introduction to Rough sets’ by K.Srinivas on 27/7/2013 at VNRVJIET.
- Attended a seminar on “Understanding the Higgs Boson“by Prof. Sridhar Rao on 14/07/14 at VNR VJIET.
- Attended a seminar on Outcome based education “on 16/02/2015 at VNRVJIET.
- Attended a seminar on Curriculum design and development” on 2/4/2015 at VNRVJIET.
- Attended a training programme on “Advanced Numerical Methods in Fluid Dynamics” during April-17th -19th, 2015 in NIT, Warangal.

- Attended a one day workshop on “Matrix Analysis Through Octave organized by IIT Hyderabad Teaching Learning Centre”, 12th May , 2016 VNRVJIET, Hyderabad.
- Attended a one day workshop on “ Arduino For Everyone organized by IIT Hyderabad Teaching Learning Centre”, 1st July , 2016 VNRVJIET, Hyderabad.
- Attended a seminar on” An over view of Mathematica for education on 23/01/2015 at VNRVJIET.
 - Attended a three day workshop on ”FINITE ELEMENT METHOD IN MECHANICAL ENGINEERING” 25th – 27th Feb, 2016.
 - Attended a two day workshop on “ Basic tools in Matlab and R-Language at VNRVJIET, from 17th – 18th March, 2016.
 - Attended a one week workshop on “ Advanced Numerical Modeling Techniques for Mechanical Engineering” at VNRVJIET,27-31 March 2017,Hyderabad.
 - Successfully completed an AICTE FDP (FDP 101X) on Foundation Programme in ICT for Education conducted by IIT Bombay from Aug 3,2017 to Sept 7, 2017.
 - Successfully completed an AICTE FDP (FDP 201X) on Pedagogy for online and blended teaching learning process conducted by IIT Bombay from Sept 14, 2017 to Oct 12,2017.
 - Attended a national webinar on “**Research (Why, What & How)**” Organized by Department of Mathematics, Vignana Barathi Institute of Technology VBIT, Hyderabad on 14th June 2020.
 - Participated a two day national webinar on “**ICT in Teaching -Learning Mathematics**” Organized by Aurora's Degree and PG College, Hyderabad from on 7-8th June, 2020.
 - Attended One Week Online Faculty Development Program on “**Taxonomy of Software's related to Mathematical Sciences** ” Organized by Gokaraju and Ranga Raju Institute of Engineering and Technology, Hyderabad, Telangana from 9th -14th June, 2020.
 - Attended and successfully completed One Week National level Online Faculty Development Program and online Training on “**SCILAB-An open Source Substitute for MATLAB**” Jointly organized by JNTUH College of Engineering, Sulthanpur, Sangareddy, Telangana and Spoken Tutorial Project, IIT Bombay from 25-30th May, 2020.
 - Participated in One week online FDP on mathematica software- Hands on Experience: Tools & Techniques for Next generation, organized by Santhiram Engineering College in association with WOLFRAM Mathematica,Bangalore from 28-06-20 to 2-07-2020.
 - Participated a one day national Level webinar on “**modeling and Simulation Fluid flows using PDE**” Organized by Department of Humanities and sciences, CMR Engineering College, Hyderabad on 25th June 2020.

- Participated in the webinar on Recent Developments in Mathematics and its Applications, organized by GITAM, Visakhapatnam on 20th June 2020.
- Attended a national Level webinar on “**Innovative Approaches in differential Equations** ” Organized by Department of Mathematics, Vignana Barathi Institute of Technology VBIT, Hyderabad on 5th June 2020.
- Participated and completed One week online FDP on ‘Moodle Learning Management System’ organized by JNTUH College Engineering, Sultanpur & Spoken Tutorial Project, IIT Bombay from 10th to 15th June 2020
- Attended an international online FDP Programme on “Recent advances in Nanomaterials”, organized by St. Joseph’s College of Engineering, Chennai from 4-5th June 2020.
- Participated and Successfully fully completed National Level Quiz on “**Mathematics and Aptitude**” conducted by Department of Mathematics, Andhra Loyola Institute of Engineering and Technology, Vijayawada, Andhra Pradesh from 19th -22nd June, 2020 with score of 95%
- Participated and Successfully fully completed National Level Quiz on ‘research Methodology’ conducted by GNIT, Hyderabad and secured 100% on 5-7-2020.
- Participated in the webinar on “ Applications of Mathematics for Engineers, organized by BHARAT Institute of Engineering & Technology, Hyderabad from 4th to 5th July 2020.
- Participated in the Two Day FDP on Applications of Mathematics in Engineering, organized by MGIT, Hyderabad from 3-4th July 2020.

5. Academic Contribution and Research & Consultancy:

5.1. Invited Lectures: 04

5.2. Articles / Chapters published in Books: NIL

5.3. Books published as single author or as editor:

5.4. Projects Guided: NIL

a) UG:

b) PG:

5.5. Research Interests: Micro-polar fluids, CFD, Numerical Analysis

5.6. Ph.D students: NIL

a) Enrolled:

b) Submitted:

c) Awarded:

5.7. Papers published in reviewed Journals:

| S.No | Title of the Paper | Journal Name Vol.No. PP | ISBN/IS SN No. | Impact Factor/ Citation Index | National/ International |
|-------------|---|---|-----------------------|--------------------------------------|--------------------------------|
| 1 | Slow steady rotation of a permeable sphere in an incompressible Micro Polar fluid | International e-Journal of Engineering Mathematics Theory and Applications,2007,Vol2,pp 44-60 | 1687-6156 | 0.803 | International |
| 2 | Uniform flow of an incompressible couple stress fluid past a permeable sphere | Bulletin of the Calcutta Mathematical Society, , 99, (3), pp 293-304.2007 | 0008-0659 | 1.878 | National |
| 3 | Oscillatory flow of an Incompressible | Proceedings of 53 rd congress ISTAM | | | National |

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|---|---|---|---------------|-------|---------------|
| | Couple stress fluid past a permeable Sphere | | | | |
| 4 | Uniform flow of an incompressible Micropolar Fluid Past a Permeable Sphere. | International e-Journal of Engineering Mathematics: Theory and Applications, March 2010, pp.1-10,Vol 8,2010 | 1687- 6156 | 0.803 | International |
| 5 | Oscillatory Flow of an Incompressible Micro polar fluid past a permeable sphere | <i>Int. J. of Appl. Math and Mech</i> , 6(7): 1-12, 2010. | 0973- 0184 | 2.38 | International |
| 6 | Slow steady Rotation of a of a permeable sphere in an incompressible Couple stress fluid | <i>IJMA</i> , Vol 6,pp 1-9.2015 | 2229- 5046 | 4.091 | International |
| 7 | Rotary oscillations of a permeable a permeable sphere in an incompressible micropolar fluid | <i>IJAMM</i> , 0973-0184,pp 79- 91,2012 | 0973- 0184 | 2.38 | International |
| 8 | Heat Transfer on the MHD flow of couple | International Journal of Advances in Applied Mathematics and Mechanics, | 2347- 2529 | 1.377 | International |

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|----|---|---|-----------------|-------|---------------|
| | stress fluid between two concentric rotating cylinders with porous lining | Vol 3(1),pp 77-86 2015 | | | |
| 9 | Couple on a rotating permeable sphere in a couple stress fluid | <i>Ain Shams Engineering Journal</i> ,2015 | 2090-4479 | 1.027 | International |
| 10 | Unsteady Forced Oscillations of a fluid bounded by a rigid bottom | International Journal of Control Theory and Applications, Vol.9(19), 2016, pp.9049-9054 | 0974-5572 | 0.53 | International |
| 11 | Steady Flow Around a Moving Circular Pipe in a Thermo-viscous Fluid in the Absence of Pressure Gradient | International Journal of Advanced Science and Technology, Vol. 99 , 2017, pp.81-90. | ISSN: 2005-4238 | 0.410 | International |
| 12 | Flow generated by slow steady rotation of a permeable sphere in a micro-polar fluid | Alexandria Engineering Journal,Vol 56,679-685,2017 | 1110-0168 | 0.439 | International |
| 13 | Unsteady Heat and Mass Transfer Flow of Cu-Water Nano-Fluid over an Inclined Plate with Free | International Journal of Pure and Applied Mathematics, Volume 118 No. 10 2018, 33-46 | 1314-3395 | 7.19 | International |

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|----|--|--|------------------------|-------|---------------|
| | Convection and Chemical Reactions | | | | |
| 14 | Viscous Fluid Flow Past a Permeable Cylinder | Lecture Notes in Mechanical Engineering,(springer), Numerical Heat Transfer and Fluid Flow-pp 285-293, Springer,2019 | ISBN 978-981-13-1903-7 | | International |
| 15 | Unsteady forced oscillations of a fluid bounded by rigid bottom | International Science Press, 9(19), 2016, pp. 9049-9054 | 09745572 | 0.111 | International |
| 16 | The unsteady flow of a fluid of finite depth with an oscillating bottom | International Frontier Science Letters, Vol 15,pp 1-8,2020 | 2349-4484 | | International |
| 17 | An intial-value technique for self-adjoint singularly perturbed two-point boundary value problems | International Journal of Applied Mechanics and Engineering, vol 25,pp 106-126,2020 | 2353-9003 | 0.42 | International |
| 18 | Unsteady Thermoviscous flow in a porous slab over an Oscillating flat plate | Journal of Porous Media,vol 22(5),pp 531–543, Begell House | 1091-028X | 0.43 | International |
| 20 | A numerical study of coupled non-linear equations of thermo-viscous fluid flow in cylindrical geometry | International Journal of Applied Mechanics and Engineering, vol 22,pp 965-979,2017 | 2353-9003 | 0.42 | International |
| 21 | Uniform flow of viscous fluid past aporous sphere saturated with micro polar fluid | Biointerface research in Applied chemistry | 2069-5837 | 1.949 | International |
| 22 | Analytical and Numerical | Communications in Mathematics and | 0975- | | International |

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|--|--|--------------|------|--|--|
| | Study of Steady Flow of Thermo-Viscous Fluid Between Two Horizontal Parallel Plates in Relative Motion | Applications | 8607 | | |
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5.8. Papers presented at National / International Journals:

| S.No | Title of the Paper | Names of the Conference/ Seminars | National/ International | Period |
|-------------|--|--|------------------------------------|------------------|
| 1 | Micro-polar Fluid Flow Past A Hollow Permeable Sphere | 10 th Congress of Andhra Pradesh Society of Mathematical Sciences, hosted by Sri Ramakrishna Post Graduate college, Nandyal | National | 2002 January |
| 2 | Oscillatory Flow Of Micro Polar Fluid Past A Porous Sphere | 12 th Congress of Andhra Pradesh Society of Mathematical Sciences, hosted by Osmania University, Hyderabad | National | 2003 December |
| 3 | Micro Polar Fluids Flow Past A Permeable Sphere | National Seminar On The Role Of Computers In Physical Sciences, hosted by Nagarjuna University Post Graduate Centre, | National | 2002 February |

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| | | Nuzvid | | |
| 4 | Oscillatory Flow Of Micro Polar Fluid Past A Porous Sphere | 12 th Congress of Andhra Pradesh Society of Mathematical Sciences, hosted by Osmania University, Hyderabad | National | 2003 December |
| 5 | Oscillatory flow of an incompressible couple stress fluid past a permeable sphere | Indian Society of Theoretical and Applied Mechanics, hosted by University College of Engineering , Osmania university, Hyderabad | International | December 2008 |
| 6 | Slow steady rotation of a permeable sphere in an incompressible Couple stress fluid | New Vistas in Computational Fluid Dynamics in Engineering, NITW. | National | January, 2012. |
| 7 | Analysis of couple due to Rotary oscillations of a permeable sphere in a couple stress fluid. | IHMTC-2017,BITS,Hyderabad | International | 27-30 th Dec 2017 |
| 8 | Viscous fluid past a permeable Cylinder | Numerical Heat Transfer and Fluid Flow ,NITW | International | 19-21 Jan, 2018 |

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|----|--|--|---------------|----------------|
| 9 | Rotary Oscillations of a Permeable sphere in an Incompressible Couple Stress Fluid | International Conference on Applications of Fluid Dynamics, VIT,Vellore | International | 13-15,Dec,2018 |
| 10 | Viscous fluid past a porous sphere saturated with micro polar fluid | 2 nd International Conference on Mathematical Techniques & Applications (e-ICMTA-2021), SRM Institute of Science & Technology, Tamil Nadu | International | 24-26,Mar,2021 |

5.9. Sponsored research Projects

| S.No | Title | Agency | Period | Grant amount | Ongoing / Completed |
|------|---|--------|---------|--------------|---------------------|
| 1 | Development of Analytical Methods for Rotary Flows generated in spherical Geometry. | UGC | 2 years | 1,95,000/- | Completed |

5.10 Consultancy Projects:NIL

| S.No | Title | Agency | Period | Sanctioned Amount | Ongoing / Completed |
|------|-------|--------|--------|-------------------|---------------------|
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6. Awards / Honors received: A best outgoing student in M.Sc

7. Motto: If you believe you can achieve.