

Dr. Ashwini M Rao
Assistant Professor
Department of Mathematics
Bapuji Institute Engineering and
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RESEARCH INTEREST:

Fluid Mechanics (Biofluid Mechanics), Numerical Methods, Differential Equations, Statistical methods

TEACHING EXPERIENCE: Having 15 years of teaching experience and 12 years in Research work experience.

Worked as

- Lecturer from Sep. 2007 to 2012.
- Assistant Professor from 2012 to till date.

EDUCATION

- Ph.D (Mathematics) from VTU, Belagavi, 2019.
- M.Sc (Mathematics) from Kuvempu University, Shankarghatta, 2007 with first class.
- B.Sc (Mathematics, Chemistry & Physics) from S.J.V.P college, Harihar, Kuvempu University, 2005 with First class.

PROFESSIONAL MEMBERSHIP:

Life Member of Indian Society for Technical Education (LM5978)

PUBLICATIONS

1. V.K. Katiyar, K.S. Basavarajappa, Ashwini M Rao, "Mathematical Modeling of blood flow in the artery with a reference to rupture behavior of Stenosis", Vol.09 Issue-01, (January - June, 2017) ISSN: 2394-9309 (E) / 0975-7139 (P) Aryabhatta Journal of Mathematics and Informatics (Impact Factor- 5.856), pp 831-840.
2. V.K. Katiyar, K.S. Basavarajappa, Ashwini M Rao, "Mathematical Modeling on the study of Spherical Tumor In Relation To Variation of Temperature in Dermal Layers", Vol.09 Issue-01, (January - June, 2017) ISSN: 2394-9309 (E) / 0975-7139 (P) Aryabhatta Journal of Mathematics and Informatics (Impact Factor- 5.856), pp 841-852.
3. Sathisha A B, Ashwini M Rao, Basavarajappa K S, "Mathematical Investigation on the Physiological Effects of Road Traffic Noise: A Reference to Varying Frequency",

International Journal For Innovative Research In Multidisciplinary Field, Volume - 6, Issue – 6, ISSN: 2455-0620, June 2020, pp 223-228

4. Ashwini M Rao, Sathisha A B, Basavarajappa K S, “A Mathematical Approach on the Study of Glucose-Insulin Model to Quantify the Various Levels of Glucose Uptake in Response to Insulin Behavior, International Journal For Innovative Research In Multidisciplinary Field, Volume - 6, Issue – 6, ISSN: 2455-0620, June 2020,pp 229-234
5. Sathisha A B, Ashwini M Rao, Basavarajappa K S, “Mathematical Model on the Function of Kidney in Reference to a Peristaltic Moment”, International Journal of Mathematics Trends and Technology (IJMTT) , Volume 66 Issue 6, ISSN: 2231-5373, June 2020,pp 43-50
6. Ashwini M Rao, Sathisha A B, Basavarajappa K S, “Mathematical Analysis on the Physiological effects of Noise”, International Journal of Mathematics Trends and Technology (IJMTT), Volume 66, Issue 6, ISSN: 2231-5373, June 2020,pp 51-58
7. Sathisha A B, Ashwini M Rao, Basavarajappa K S “Mathematical Modeling on Peristaltic Transport of Two Layered Viscous Incompressible Fluid in Relation to Varying Wall Moment”, International Journal of Engineering, Science and Mathematics, Vol. 9, Issue 7, ISSN: 2320-0294, July2020,pp 48-57
8. Ashwini M Rao, Sathisha A B, Basavarajappa K S, “Mathematical Analysis of Peristaltic Transport with a Reference To Casson Fluid”, International Journal of Engineering, Science and Mathematics, Vol. 9, Issue 7, ISSN: 2320-0294, July2020,pp 58-67
9. Sathisha A B, Ashwini M Rao, Basavarajappa K S, “Mathematical Approach of the Tumor Growth Model - A Discussion on Glioma Tumor”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 8 Issue VII, ISSN: 2321-9653, July 2020, pp 936-939
10. Ashwini M Rao, Sathisha A B, Basavarajappa K S, “Mathematical Study on Spread of Infectious Diseases: S-I-R Model with a Reference to Industrial Pollution”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 8 Issue VII, ISSN: 2321-9653, July 2020,pp 940-943
11. Sathisha A B, Ashwini M Rao, Basavarajappa K S, “Mathematical Analysis on the Physiological Effects of Water Pollution”, International Journal of Engineering Development and Research Volume 8, Issue 3, ISSN: 2321-9939, Aug 2020,pp 231-236
12. Ashwini M Rao, Sathisha A B, Basavarajappa K S, “Mathematical Analysis of Pulsatile Flow of Blood in Bifurcation with Varying Frequency”, International Journal of Engineering Development and Research, Volume 8, Issue 3, ISSN: 2321-9939, Aug 2020,pp 237-242

SHORT TERM COURSES/WORSHOPS

Attended

- One day workshop on “Mathematical Applications in Engineering Systems” at Bapuji Institute of Engineering and Technology, Davangere on 27th October 2007.
- Short term training programme on “Industrial Pollution Control” at Bapuji Institute of Engineering and Technology, Davangere from 16th to 20th June, 2008.
- Two days workshop on “Research Methodologies and Report writing” organized by the e-learning centre Mysore at KLS Gogte Institute of Technology, Belagavi on 25th and 26th May 2009.
- Three days International Conference on “Mathematical Modeling and Non linear equations” at BNM Institute of Technology, Bangalore during 20th to 22nd January 2010.
- One day workshop on “Mathematics and its Applications in Engineering” at Bapuji Institute of Engineering and Technology, Davangere on 18th February 2010.
- One day National workshop on “Emerging trends on Applied and Pure Mathematics” at S T J Institute of Technology, Ranebennur on 12th March 2011.
- Three days National Conference on “Applied and Engineering Mathematics” and presented a paper entitled “Mathematical Analysis of the Bio-heat distribution in the spherical layers – detection of tumor” at RNS Institute of Technology, Bangalore during 28th -30th July 2011.
- Two days National Conference on “Frontiers in Applied Mathematics” and presented a paper entitled “Mathematical Modeling on the study of spherical tumor in relation to variation of temperature in skin layers” at MES College of Arts, Commerce and Science, Bangalore on 9th -10th March 2012.
- Two days National Conference on “Advances in Geometry, Analysis and Fluid Mechanics” and presented a paper entitled “Study of Mild stenosis with varying viscosity of blood in reference to increased hemoglobin” at Department of PG studies and Research in Mathematics, Kuvempu University, Shankarghatta, Shimoga during 26th-27th August 2014.
- One day Orientation Programme on “Preparation for UGC- NET and SLET Examination” at Bapuji Institute of Engineering and Technology, Davangere on 19th April 2017.

- Participated and presented a paper in two days programme on “14th State level ISTE Students Annual Convention and 5th National Conference on Emerging Trends in Engineering Research and Management” at GM Institute of Technology, Davangere on 8th and 9th September 2017.
- Two days workshop on “Advanced Mathematical Techniques in Research and Engineering Applications” at GM Institute of Technology, Davangere on 29th and 30th January 2018.
- Attended and presented a paper in One Day National Conference on Recent Trends on the Applications of Science in Engineering (NCRSE- 2018) held at Bapuji Institute of Engineering and Technology, Davanagere on 28th September 2018.
- Attended and Presented a paper entitled “A Mathematical approach on the study of Glucose-Insulin model to quantify the various levels of Glucose uptake in response to insulin behavior” in National Conference, NCETERM-2018 held at GMIT, Davanagere on 26th & 27th October, 2018.
- Attended Two Days “Workshop for Mathematics Teachers” conducted jointly by KSCST, Bangalore, Educational Department, Davangere, KRVP, Davangere, Rotary Club, Davangere Mid Town and BIET, Davangere at Department of Mathematics, BIET, Davangere on 18th and 19th January 2019.
- Attended One Day National Seminar on “ Recent Trends & Applications in Mathematics (RTAM - 2019)” and presented a paper entitled “Mathematical investigation on the physiological effects of Road Traffic noise – A reference to varying frequency” organized by Department of Mathematics, Government Science College, Chitradurga on 26th March 2019.
- Attended Two Days “National Conference on Recent trends in Applied Sciences and Computing Engineering” and presented a paper entitled “A Mathematical approach on the study of Glucose Insulin Model to Quantify the various levels of Glucose uptake in response to Insulin behavior” organized by Department of Mathematics , JNNCE, Shivamogga on 26th and 27th July 2019.
- Attended one day webinar on Yoga as Lifestyle and Preventive Medicine conducted by department of Computer Science and Engineering, Angadi Institute of Technology and Management on 20th June 2020.

- Attended "Four days National Webinar on Fluid Mechanics and its Application in Engineering Science" conducted by Department of Mathematics, PESITM Shimoga from 24th June to 27th June 2020.
- Participated in National webinar on GeoGebra : An Effective Tool For Mathematics Teaching” organized by Department of Mathematics on 03 July ,2020 at Manvi.
- Online webinar on “Teaching & Learning Process, Course Outcomes and Program Outcomes” on 04/07/2020 at GMIT, Davangere.
- Participated in Five days Online Faculty Development Programme (FDP) on “Current Trends and Research opportunities in information technology” organized by Department of Computer Science and Engineering, Tontadarya College of Engineering from 06-07-2020 to 10-07-2020.
- Online Quiz on “Operations Research” conducted by Department of Mechanical Engineering, PESITM, Shivamogga on 7th July, 2020.
- webinar on “Machine learning with Python and Cloud Development” organized by Faculty of Engineering and Technology(Co-Ed) (APPA Institute of Engineering & Technology), Department of CSE on 09th July 2020 at Gulbarga.
- webinar on "WOLFRAM MATHEMATICA: AN OVERVIEW" held on 10/07/2020 organized by the Department of Mathematics & Department of Industrial Engineering and Management at Dr. Ambedkar Institute of Technology, Bengaluru.

Seminars/Workshops/Events Organized:

- One day work shop on “Mathematical application in Engg. system” on 27-10-2007, BIET Davanagere.
- One day Workshop on “ Mathematics& its Applications in Engineering” held on 18th Feb 2010 at Bapuji Institute of Engineering & Technology, Davangere.
- Assistant coordinator of “Technology barrier reduction program” (TBRP) held at Bapuji Institute of Engineering and Technology, Davangere from 18-4-16 to 6-5-16.
- Organizing committee member of “ Technology barrier reduction program(TBRP) from 24th April to 12th May 2017” held at Bapuji Institute of engineering and technology, Davangere

- Department of Mathematics has organized one day seminar on “Science in Engineering” on 15-12- 2017 at Srinivasa Ramanujan Hall, BIET Davangere. About 50(fifty) participants from various Institutions attended the seminar.
- Participated in organizing “National science day” on 28-02-2018 under science forum
- “One day National Conference on Recent Trends on the Applications of Science in Engineering” (NCRSE-2018) on 28th September 2018 at BIET, Davanagere.
- Summer Internship conducted for Rural High School Students on “Technology Barrier Reduction program” between 16th April 2018 to 5th May 2018 at Bapuji Institute of Engineering & Technology, Davangere, Karnataka, Organized by Foundation for Advancement of Education and Research and sponsored by Zebra Technologies, Bangalore.
- Summer Internship conducted for Rural High School Students on “Technology Barrier Reduction program” between 22nd April 2019 to 10th May 2019 at Bapuji Institute of Engineering & Technology, Davangere, Karnataka, Organized by Foundation for Advancement of Education and Research and sponsored by Zebra Technologies, Bangalore.
- Organized Student Induction program for First Year students for the academic year 2018-19.
- Organized Student Induction Program Phase I for First Year students from 01-08-2019 to 10-08-2019
- Organized National Mathematics Day in the Department of Mathematics, BIET on 28.12.2019.
- Organized Student Induction Program Phase II for First Year students from 10.-02-2020 to 15-02-2020
- Organized Two days National level Webinar on “Advances in Mathematical Sciences and its Applications in Engineering and Research (AMSAER)-2021” by Department of Mathematics, Bapuji Institute of Engineering & Technology, Davangere, Karnataka on 11th and 12th July 2021.

Papers Presented

- Presented a paper entitled “Mathematical Analysis of the Bio-heat distribution in the spherical layers – detection of tumor” in Three days National Conference on “Applied and Engineering Mathematics” at RNS Institute of Technology, Bangalore during 28th -30th July 2011.
- Presented a paper entitled “Mathematical Modeling on the study of spherical tumor in relation to variation of temperature in skin layers” in Two days National Conference on “Frontiers in Applied Mathematics” at MES College of Arts, Commerce and Science, Bangalore on 9th -10th March 2012.

- Presented a paper entitled “Study of Mild stenosis with varying viscosity of blood in reference to increased hemoglobin” in Two days National Conference on “Advances in Geometry, Analysis and Fluid Mechanics” at Department of PG studies and Research in Mathematics, Kuvempu University, Shankarghatta, Shimoga during 26th-27th August 2014.
- Presented a paper in two days programme on “14th State level ISTE Students Annual Convention and 5th National Conference on Emerging Trends in Engineering Research and Management” at GM Institute of Technology, Davangere on 8th and 9th September 2017.
- Presented a paper entitled “A Mathematical approach on the study of Glucose-Insulin model to quantify the various levels of Glucose uptake in response to insulin behavior” in National Conference, NCETERM-2018 held at GMIT, Davanagere on 26th & 27th October, 2018.
- Presented a paper entitled “Mathematical investigation on the physiological effects of Road Traffic noise – A reference to varying frequency” in One Day National Seminar on “Recent Trends & Applications in Mathematics (RTAM - 2019)” organized by Department of Mathematics, Government Science College, Chitradurga on 26th March 2019.
- Presented a paper entitled “A Mathematical approach on the study of Glucose Insulin Model to Quantify the various levels of Glucose uptake in response to Insulin behavior” in Two Days “National Conference on Recent trends in Applied Sciences and Computing Engineering” and organized by Department of Mathematics, JNNCE, Shivamogga on 26th and 27th July 2019.

RESPONSIBILITIES

Worked as:

- Coordinator for Department website Dept. of mathematics, Bapuji Institute of Engineering and Technology, Davanagere.
- Member of anti ragging committee, Dept. of mathematics, Bapuji Institute of Engineering and Technology, Davanagere.
- Assistant coordinator in Technology Barrier Reduction Programme (TBRP)- 2017. Dept. of mathematics, Bapuji Institute of Engineering and Technology, Davanagere.
- Internal squad for VTU examination June/July 2018, Dept. of mathematics, Bapuji Institute of Engineering and Technology, Davanagere.

- Organizing member, KSCST Seminar cum Project exhibition on 10th & 11th August 2018 at BIET, Davanagere .
- Assistant coordinator in “Technology Barrier Reduction Program, Summer Internships for Rural School Students” held at BIET, Davangere during 16th April to 4th May 2018.
- Member in organizing Student Induction Program for First Year Students during August 2018.
- Coordinator for “One day workshop on Recent Trends on the Applications of Science in Engineering (NCRSE-2018)” on 28th September, 2018 at BIET, Davanagere
- Coordinator for NBA (First Year Academics) and NAAC, Dept. of mathematics, Bapuji Institute of Engineering and Technology, Davanagere.
- Coordinator for Two days National level Webinar on “Advances in Mathematical Sciences and its Applications in Engineering and Research (AMSAER)-2021” by Department of Mathematics, Bapuji Institute of Engineering & Technology, Davangere, Karnataka on 11th and 12th July 2021.

SUBJECTS TAUGHT

Engineering Mathematics I , Engineering Mathematics II , Engineering Mathematics III , Engineering Mathematics IV, Advanced Mathematics I , Advanced Mathematics II , Applied Mathematics (M. Tech), Statistics & Probability, Biostatistics and Bio modeling, Calculus and Linear Algebra, Advanced Calculus and Numerical methods, Transform Calculus, Fourier Series And Numerical Techniques, Complex Analysis, Probability And Statistical Methods

Ph.D. Thesis: “Developing Mathematical Models in Biological Systems with A Reference To Flow Behavior Of Blood For Variable Parameters”

Residential Address

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