

Curriculum Vitae

Name and Address :

Dr. A . Padmanabha Reddy
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• TEACHING /RESEARCH Interests:

Wavelets, Numerical Analysis, Differential Equations and Mathematical Imaging.

• EDUCATIONAL QUALIFICATION

- **Qualified National Eligibility Test (CSIR-UGC; June-2011) with rank 65**
- **Ph. D in Mathematics**
Thesis Title: “Wavelet Analysis and Applications”
Research Guide: Dr. V. A. Hiremath(Retd. Professor)
Research Co-Guide: Prof. N. M. Bujurke, FNA, FNASc.
Dept. of Mathematics, K.U. Dharwad

Particulars	Board/University and year	Class
S.S.C	A.P.Board, 1996.	<i>First class</i>
B.Sc* [Physics, Mathematics and Computer Science]	Karnatak University, 2002.	<i>First Class with Distinction</i>
M.Sc [Mathematics]	Karnatak University, 2004.	<i>First Class with Distinction</i>
Ph.D [Mathematics]	Karnatak University, 2012.	<i>Awarded on 24th May, 2012</i>

**Winner of Infosys Cash Prize for securing highest percentage in Mathematics for the period of 1999-2002.*

• TEACHING EXPERIENCE: Approx. 8 Years

Institute/College	Position Held	Number of years
J.S.S. College, Dharwad	Part-Time Lecturer	6(Six) Months
N.D.A Kadakwasla, Pune	Instructor	5(five) Months
Karnatak University, Dharwad	Guest Faculty	One and half Year
Karnatak Science College, Dharwad	Teaching Assistant	9(Nine) Months
V.S.K. University, Bellary	Assistant Professor	From Oct.20,2012

RESEARCH EXPERIENCE

- *From December 2006 to September 2010 worked as **Junior and Senior Research Fellow in DST Major Research Project** entitled “Wavelet Analysis: Solution of Equations and Data Analysis”*
- *Doctoral Degree awarded for the thesis entitled “**Wavelet Analysis and Applications**” on 24th May, 2012 submitted to Karnatak University, Dharwad.*
- *Guiding six students for their Ph.D.[See Table at the end].*

Research Projects:

Completed successfully a research project entitled “Wavelets and their Scientific Computing” supported by vision Group of Science and Technology, Govt. of Karnataka(GRD-497,Six Lakhs) during 2016-2017.

• PUBLICATIONS

- 1) An improved wavelet based preconditioners for sparse linear problems, Appl.Math , 2010, 1, 370-376, *SCRIP*. (with N.M.Bujurke)[**ISSN print :2152-7385, ISSN Online :2152-7393**].
- 2) Biorthogonal wavelet based algebraic multigrid preconditioners for large sparse linear systems, Appl. Math, 2011, 2, 1378-1381, *SCRIP* (with N. M. Bujurke) [**ISSN print :2152-7385, ISSN Online :2152-7393**].
- 3) Biorthogonal wavelet based preconditioners for sparse linear systems.The Mathematics Student,2013,82[1-4],1-18,IMS(with N.M.Bujurke) **ISSN 0025-5742**].
- 4) Haar Wavelet Approach fir the Solution of the Seventh Order Ordinary Differential Equations, Math. Modl. Eng. Prob., 2016,3, 108-114.(with Manjula S.H., C. Sateesha and N. M. Bujurke)[**ISSN: 2369-0739**].
- 5) Application of Haar Wavelet Collocation Method to Solve the Fifth Order Ordinary Differential Equations, Int. J. Math. Archive, 2016 7, 53-62. (with C. Sateesha and Manjula S. H.)[**ISSN: 2229-5046**].
- 6) Solution for nth der Mixed Fredholm-Volterra integro-Differential Equations using Haar Wavelets, Arya. J. Math. Inform., 2017, 9, 261-271. (with Manjula S.H. and C. Sateesha)[**ISSN: 0975-7139**].

- 7) Investigation of Haar Wavelet Collocation Method to Solve Ninth Order Boundary Value Problems (SCOPUS), Glob. J. Pur. Appl., 2017, 13, 1415-1428. (with C. Sateesha and Manjula S. H.) [ISSN: 0973-1768].
- 8) Haar Wavelet Collocation Method to Solve Problems Arising in Induction Motor, J. Inf. Compt. Sci, 2017, 12, 96-106. (with C. Sateesha and Manjula S. H.) [ISSN: 1746-7659].
- 9) A numerical Approach to Solve Eighth Order Boundary Value Problems by Haar Wavelet Collocation Method, J. Math. Modl., 2017, 5, 61-75. (with Manjula S.H. and C. Sateesha)[ISSN: 2382-9869].

Conference / Workshop / Short term course attended or presented:

1. Workshop on qualitative theory of Ordinary Differential Equations, held at Department of Mathematics, **University of Pune**, during 23rd -27th Nov., 2004.
2. **Annual Foundation School-I in Mathematics**, organized National Board for Higher Mathematics at **Bhaskaracharya Pratishthana** and University of Pune, during 5th -31st Dec., 2005.
3. National workshop on “Techniques in Applied Mathematics” held during Oct., 10-18, 2006 in Department of Applied Mathematics, **University of Calcutta**, Kolkatta.
4. **Instructional School** on Modern Theory of Partial Differential Equations conducted at Department of Mathematics, **IIT Bombay**, Mumbai during 27th May to 23rd June 2007.
5. Short term training programme on “Scientific Computing and Modeling during 5th-10th May 2008, conducted by Dept. of Mathematics and Humanities, **NIT, Warangal**.
6. Participated and Presented research paper entitled “*Wavelet based algebraic multigrid preconditioners for sparse large linear systems*” in National Symposium on Recent Trends in applied Mathematics organized by Dept. of Mathematics, **Gulbarga University**, Gulbarga during 8-9, Feb., 2010.
7. Attended the Satellite conference Of International Congress of Mathematicians 2010(**ICM-2010**) “Inverse Problems and Wavelet with Application to Real World System” jointly organized by **Sharda University**, Noida and **IIT, Delhi**, 14th to 17th August 2010.
8. Participated and Presented research paper entitled “Wavelet based preconditioners for Krylov Subspace iterative methods” in National

- Conference on Analysis and Applications organized by Dept. of Mathematics, **K.U. Dharwad** during 15th to 17th March, 2011.
9. Workshop on “Mathematics and Statistics Education in India” held during 10th Jan., 2012, organized by PIMS and Dept., of Mathematics, Statistics and Computer Science.
 10. Participated in National Mathematical year 2012 VGST government of Karnataka, Bangalore, Veerashaiva College Bellary, Mathematical lecture series on 29/12/2012.
 11. *Global Advancement of Mathematics, held by Jangjeon Mathematical Society & Acharya Institute Campus, Bangalore, Bangalore during Aug.01-04, 2013.*
 12. *Participated in UGC sponsored One day International Symposium entitled Advances in Applied Mathematics conducted by MES College, Bangalore on 18th Jan., 2014.*
 13. Participated and presented research article “Numerical Solution of Differential Equations using HDD Wavelets” in the conference entitled “International Conference on Applications of Fractals and Wavelets” at Amrita Vishwa Vidyapeetham, Ettimadai, Coimbatore from 10-01-2015 to 11-01-2015.
 14. Participated in the “Instructional School for Lecturers” on “Functional Analysis”, 18th -30th May, 2015 organized by Indian Institute of Technology Kanpur, Kanpur.
 15. Participated in the workshop entitled “ National Workshop on Research Issues on Medical Image Processing” organized by Rajagiri School of Engineering and Technology(RSET), Kochi during 10-12 April 2017.
 16. Attended one day workshop on Recent Advances in Optical Communications and Networks, organized by Karnataka State Higher Education Council, Bengaluru on 29-05-17.
 17. Participated in the workshop “Wavelets and their applications in signal and image processing” organized by Department of Mathematical Sciences, Indian institute of technology(BHU), Varanasi during 21 -25 December 2017

INVITED TALKS DELIVERED

- *Title of Talk: “Evaluation of scaling function at dyadic points” delivered in the workshop on “Basics of Wavelets and Applications” conducted by Department of Mathematics, Basaveshwar Engineering College, Bagalkot during 13th -15th March, 2008.*
- Delivered four hours of invited lecture for the preparation of **NET/SET** (M.Sc-Mathematics students) in Department of Mathematics, Karnatak University, Dharwad, during 17th and 18th March, 2012.

- Delivered invited lectures for the preparation of **NET/SET** (M.Sc-Mathematics students) in Department of Mathematics, Basaveshwara Science College, during 24th and 25th October, 2013.
- Delivered a talk on Wavelet based preconditioners:Orthogonal V/s Biorthogonal in the Seminar on Recent Trends in Mathematics, Organized by Gogte Institute of Technology, Belgaum,28th and 29th of January 2014.
- Delivered a talk on Approximation Theory: From Taylor Polynomials to Wavelets, in the Refresher Course in Mathematics and Statistics organised by UGC-Academic staff college, Bangalore University, Bangalore on February 8, 2014.
- Delivered invited lectures for the preparation of **NET/SET** (M.Sc-Mathematics students) Department of Mathematics, Ilkal Degree college,Ilkal, November, 2014.
- Delivered invited lectures for the preparation of **NET/SET** (M.Sc-Mathematics students) in Department of Mathematics,Rani Channamma Unversity,Belagavi,20-11-14 to 21-11-14.
- Delivered three lectures on *Differential Equations* in the workshop entitled” Four Day Workshop on NET/KSET/GATE and other Competitive Examinations in Mathematical Sciences organized by the Dept. of Mathematics, Mangalore University during 10-13 March 2017, (talk 12-03-17).
- Delivered invited talk on Detecting Singularities using Wavelet Transforms, Recent advances in Mathematical Sciences and Applications, 1-2 December, 2017, Dept. of Mathematics, Tumkur University, Tumkur
- Delivered short talk on “Various Bounds for Haar Wavelet Coefficients Corresponding to Continuous Real Valued Function Defined on Unit Interval”at “International Workshop on Wavelets, Frames and Applications-III “followed by a conference during 14-20 December 2017, Kirori Mal College, University of Delhi, Delhi.

- **COMPUTER KNOWLEDGE**

Languages known: C, FORTRAN, COBOL.

Packages known: MATLAB, Mathematica, Origin,R.

Operating System: Win 95, 98 and 2000, Win-XP, Linux,Ubuntu.

Research Guidance

Sl.No	Name of the Student	Thesis Title	Remarks
1	Sateesha C.	Investigation of wavelet based techniques for the solution of real world problems.	Thesis Submitted
2	Manjula S. H.	An application of wavelets for the solution of equations arising in mathematical modeling.	Thesis Submitted
3	Arunkumar H. M.	Wavelet based approaches for signal processing.	-NA-
4	Riyajuddin K.	A study on wavelets and its applications in image and signal processing.	-NA-
5	Naveenakumara U.	Wavelet theory for signal and image processing	-NA-
6	Nagaveni K.	Wavelet based solutions to the problems in science and engineering.	-NA-

Declaration: I hereby declare that the above written particulars are true to the best of my knowledge and belief.

Place: Ballari.

Date: 21-03-2018

(A.Padmanabha Reddy)
