

BIODATA

1. **Name** : Ramesh Chand Mittal
2. **Father's Name** : Late Shri Laxmi Narayan Mittal
3. **Date of Birth** : 5th Sept., 1952
4. **Present Address** : Department of Mathematics,
I. I. T. Roorkee,
ROORKEE-247667 (U.A.)
India.
Tel. no.-91-01332-285193 (R)
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5. **Permanent Address** : Mittal Cloth Stores,
Station Road Mandi,
SABALGARH
Dist. Morena (M.P.)
India.

6. Educational Qualifications :

Examination Passed	Board/ University	Year	Subjects	% Obtained	Division
Higher-Secondary	Board of Secondary Education, Bhopal(M P)	1970	Hindi, Phy., Chem., and Mathematics	81.33%	FIRST
B.Sc.	Jiwaji University, Gwalior (M.P.)	1973	Gen. English, Phy., Chem. Mathematics	71.3%	FIRST
M.Sc.	I. I. T. Delhi	1975	Mathematics	> 80% in Grade system	FIRST class
Ph. D.	I. I. T. Delhi	1979	Numerical Analysis		

7. **Scholarships Awarded** : (i) Got Merit Scholarship in Higher Secondary School
(ii) Selected under National Science Talent Scholarship of NCERT to persue higher study in Mathematics

- 8 . Foreign Country Visited** : Iraq 1987-89
Ethiopia & Dubai 2004
USA 2005
UAE University Al Ain 2008
- 9 . Present Position** : Professor in Mathematics,
IIT Roorkee, ROORKEE
- 10. Other Position Held** : Assistant Warden Cautley 1982-85
Warden Cautley 1993-97
Chief Warden Cautley 1997-01
Organising Vice Chairman JAM - 2004
Vice Chairman JAM - 2005
Foreign Student Advisor 2004 – 2006
Co – Cordinator ISC 2005 - Onwards
- 11. Research Experience** : (i) Supervised 9 research students for their
Ph.D. degree
(ii) Have supervised more than 100 PG
Students Dissertations
(iii) Have published more than 40 research
Papers in International and National
Journals of Repute
(iv) Actively involved in guiding MCA
Students in their software projects
- 12. Teaching Experience** : Teaching Computer and Engineering
Mathematics for last 30 years
- 13. Workshop Organized** : Hindi and Computer Sept. 23-26(2009)
IIT Rooree, ROORKEE

Research Papers Published

1. High Accuracy Difference Schemes for the Cylindrical Heat Conduction Equation, J. Inst. Maths. Applications, U.K. 22(1978), Pp. 321-331. (With Dr. S.R.K. Iyengar)
2. High Order Difference Schemes for the Wave Equation, Int. J. Numer. Methods in Engg. 12 (1978), Pp. 1623-1627. (With Dr. S.R.K. Iyengar)
3. Difference Schemes for the Solution of Quasi Linear Diffusion Equation In Cylindrical Symmetry, J. Maths. Physical Sciences 15 (1981), Pp. 359-375 (With Dr. S.R.K. Iyengar)
4. A One Parameter Family of LAD Methods for The Steady State Navier-Stokes Equations, Computer & Fluids 13 (1985) Pp. 507-511 (With P.K. Sharma)
5. A Numerical Treatment of Two Dimensional Navier-Stokes Equations, J. Maths Physical Sciences 19 (1985), Pp. 169-177 (With P.K. Sharma)
6. High Order Finite Difference Schemes to Solve Poisson's Equation in Cylindrical Symmetry, Comm. in Applied Numer. Analysis 31 (1987) Pp. 457-461. (With S. Gahlaut)
7. Fast Finite Difference Solutions for Steady-State Navier-Stokes Equations Using BID Method, J. Num. Methods In Fluids 7 (1987), Pp. 911-917. (With P.K. Sharma)
8. A Boundary Integral Formulation for Poisson's Equation In Polar Co-ordinates, Ind. J. Pure & Appl. Maths 18 (1987), Pp. 965-972. (With S. Gahlaut)
9. Numerical Solution of a Viscous Incompressible Flow Problem through an Orifice, Applied Scientific Research 44 (1987), Pp. 361-375 (With P.K. Sharma)
10. High Order Finite Difference Schemes to Solve Poisson's Equation in Polar Co-ordinates, IMA J. Num. Analysis 11 (1991), Pp. 261-270 (With S. Gahlaut)
11. Numerical Solution of Burger's Equation, Comm. in Numer Methods In Engg. 9 (1993), Pp. 397-406. (With Poonam Singhal)

12. Calculation of Zeros of a Real Polynomial Using Scaling of its Coefficients, Int. J. Computer Maths 48 (1993), Pp. 117-124. (With Ritu Agarwal)
13. Gravitational Instability of A Rotating Partially Ionized Plasma Carrying a Uniform Magnetic Field with Hall Effect, Astrophysics and Space Science 199 (1993), Pp. 323-331 (With Vinod Kumar et al).
14. On Zeros of A Complex Polynomial ,Ind. J. Pure & Applied Maths 26 (1995) Pp. 363-371. (With Ritu Agarwal)
15. Numerical Solution of Periodic Burger's Equation , Ind J. Pure & Applied Maths 27 (1996), Pp. 689-700 (With Poonam Singhal)
16. Orthogonal Wavelets, J Discrete Math. Sciences & Cryptography 3 (2000) pp 253-262
17. Solution of a Sparse Linear System by Using Digraph, Int. J. Computer Math 74 (2000), Pp. 151-158. (With Ahamad Al-Kurdi)
18. Space-Filling Curves, Resonance J. of Science Education 12 (2000) Pp. 26-33
19. Efficient Computation of the Permanent of A Sparse Matrix, Int. J. Computer Math 79 (2001) (With Ahamad Al-Kurdi)
20. Application of The Cramer Rule In Solution Of A Sparse System Of Linear Equations, J Comp. & Applied Maths 136 (2001), Pp 1-15. (With Ahamad Al-Kurdi)
21. Efficient Solution of a Sparse Non-Symmetric System of Linear Equations, Int. J. Computer Math 79 (2002) , pp.449-463 (with Ahamad Al-Kurdi)
22. LU – Decomposition and Numerical Structure for Solving Large Sparse Non-Symmetric Linear Systems, Comp. and Maths with Applics, 43(2002), pp131-155 (with Ahamad Al-Kurdi)
23. Performance of Various Preconditioned GCR(k) Algorithms Applied to Sparse Nonsymmetric Linear Systems, International Journal of Applied Science & Computations, 9(2002) pp. 11-31 (with Ahmad Al-Kurdi & David Kincaid)
24. An Efficient Method for Constructing an ILU Preconditioner for Large Sparse Linear System by GMRES Method, Comp. and Maths with Applics, 45(2003) , pp. 1757-1772. (with Ahamad Al-Kurdi)

25. Order Reduction of Linear Systems using Point-to-point Step Response Matching Technique, WSEAS Trans. On Systems 3 (2004) pp.2331-2334 . (with S. Mukherjee & Satakshi)
26. Discrete System Order Reduction Using Multipoint Step Response Matching, J. Comp. and Appl. Maths 170 (2004) pp. 461-466 (with S. Mukherjee & Satakshi).
27. Order Reduction of Linear Discrete Systems using a Genetic Algorithm, Applied Mathematical Modelling 29 (2005) pp. 565- 578 (with Satakshi and S. Mukherjee).
28. Model Order Reduction using Response Matching Technique, J Franklin Institute 342(2005) pp 503-519 (with S. Mukherjee and Satakshi)
29. Numerical Study of Fisher's Equation by Wavelet Galerkin Method , Int J. Computer Math. 83 (2006) pp287-298 (with Mr. Sumit Kumar)
30. Linear Time Invariant System Order Reduction using Multipoint Step Response Matching , Int. J. System Sciences 38 (2007) pp211-217 (with S. Mukherjee and Satakshi)
31. Fractal Feature for classification of Hyper spectral Images of Moffit Field, USA , Current Science 94 (2008) pp 356-358 (with J K Ghosh & Ankur Somvanshi)
32. Solution of a Class of Singular Boundary Value Problems, Numerical Algorithms 47 (2008) pp 169-179 (with Ruchi Nigam)
33. Solution of Fractional Integro-differential Equations by Adomian Decomposition Method, Int. J. Appl Math and Mech 4(2008) pp 87-94 (with Ruchi Nigam)
34. Numerical Study of Fisher's Equation by using Differential Quadrature Method, Int. J. Inform & System Sciences 5 (2009) pp 143-160 (with Ram Jiwari)
35. A Numerical Study of Stationary Solution of Viscous Burgers' Equation using Wavelets, Int. J. Comp Maths (2009) pp 1-12 (with Sumit Kumar)
36. A Spectral Method for Suspension Bridge Model, Int. J. Appl Math and Mech. 5 (2009) pp 66-75 (with Ram Jiwari)
37. Differential Quadrature Method for Two-Dimensional Burgers' Equations, Int. J. Comp. Methods Engng Science and Mech. 10(2009) pp 450-459 (with Ram Jiwari)

38. Quintic B-Spline Collocation Method for Numerical Solution of the Extended Fisher–Kolomogorov Equation, *Int. J. Appl. Math and Mech.* **6** (2010) pp 74-85 (with Geeta Arora)

Research Papers Published in Proceedings of Conferences/ Symposia

1. Exact Roots of a Polynomial with Rational Coefficients, First ISIAM Conference, University of Roorkee (1993), pp.119-123 (with Ritu Agarwal).
2. An Iterative Conformal Map for Simply Connected Domains, Second ISIAM Conference, Anna University Madras (1994) pp.E1-1 to E1-10 (with Neelam Jain).
3. Design of Symmetric and Asymmetric Joukowski Airfoil of Specified Chord and Maximum Thickness, Conf. on Mathematics and its Applications in Engineering and Industry, University of Roorkee (1996) pp.296-303 , Narosa Publishing House, New Delhi (with Neelam Jain).
4. Data Compression through Wavelets, Conf. on Mathematics and its Applications in Engineering and Industry, University of Roorkee (1996) pp.187- 205 , Narosa Publishing House, New Delhi
5. Shataranj Par Aath Bajeer, Workshop on Use of Hindi in Computer Science, Chapter 21 (1997) Commission for Scientific & Technical Terminology, MHRD Govt. of India
6. Some Preconditioned Krylov Subspace Solvers for Large Nonsymmetric Sparse Linear Systems, Indo-US Workshop on Advances in Elastic Vibrations and Smart Structures, University of Roorkee (2001) pp.222-229, Phoenix Publishing House, New Delhi (with Ahmad Al – Kurdi)
7. A Comparison of CGS and GMRES Methods for Solving Numerical Heat Transfer Problem, International Conf. on Mathematical Modelling, University of Roorkee (2001) pp.42- 46, Tata-McGraw-Hill Publishing, New Delhi. (with Ahmad Al – Kurdi)
8. Frames and their Applications, International Conf. on Mathematical Modelling, University of Roorkee (2001) pp.156-160, Tata-McGraw-Hill Publishing, New Delhi.
9. Powers of Boolean Matrix Strategy Based New Refinement Using Splitting, *Mathematics and Information Theory : Recent Topics and*

Applications, NSIT New Delhi (2003) pp. 240-251 Anamaya Publishers
New Delhi (with Ahmad Al-Kurdi)

10. Generation of Some Fractals, Workshop on Nonlinear Dynamical Models
and their Behaviour, IIT Roorkee (2005) pp.32-41
11. Solution of two dimensional fractional dispersion equation by Adomian
Decomposition Method, Recent Advances in Computational Mech. and
Simulation (ICCMS-06) IIT Guwahati , (2006) vol.2 pp1636-1640, I.K.
International Publishing House Pvt. Ltd.

Ph. D. Theses Supervised Independently

	Name	Topic	Year
1.	Mr. P. K. Sharma	Finite Difference Solution of Steady State Navier-Stokes Equations	1985
2.	Ms Poonam Singhal	Numerical Solution of Some Non-linear Differential Equations	1995
3.	Ms Ritu Agarwal	On the Zeros of a Polynomial	1995
4.	Ms Neelam Jain	Numerical Conformal Mapping and their Applications	1996
5.	Mr. Ahmad Al-Kurdi	Efficient Solution of Sparse Linear System	2002
6.	Mr. Sumit Kumar	Numerical Solution of Differential Equations by Using Wavelet	2008
7.	Ms. Ruchi Nigam	Solutions of Differential Equations by Adomian Decomposition Method	2009

Ph. D. Theses Supervised Independently

	Name	Topic	Year
1.	Mr. Vinod Kumar	A Study of Wave and their Instabilities in Plasmas	1994
2.	Ms Satakshi	Order Reduction of Linear Systems using Response Matching Techniques	2005

Courses Taught

UG Courses

- (i) MA -101 Mathematics I
- (ii) MA -102 Mathematics II
- (iii) MA -202 Numerical Methods
- (iv) IMA- 18 Finite Element Method

PG Courses

M. Sc. Applied Mathematics / Industrial Mathematics

- (i) MA-550 Object Oriented C++ Programming
- (ii) MA-555 Numerical Analysis
- (iii) MA-635 Data Base Management System

Master in Computer Application (MCA)

- (i) CA-501 Information Technology
- (ii) CA-502 System Analysis and Design
- (iii) CA-642 Principles of Compiler Writing
- (iv) CA-635 Internet Technology

Pre Ph. D. Courses

- (i) MA-902 Advanced Numerical Analysis