A. Swaminathan
Associate Professor
Department of Mathematics
I.I.T. Roorkee, 247 667, India
E-mail: mathswami@gmail.com
mathswami@yahoo.com
swamifma@iitr.ac.in

Fields of Research interest:

Computational Complex Analysis	—	• Positivity of trigonometric sums
	—	• Geometric Function Theory
Approximation Theory	—	• Orthogonal Polynomials on the Unit Circle
	—	• Orthogonality of Finite Class of polynomials
	—	• Zero-free and Maximal polynomials
Special Functions	—	• Geometric properties of hypergeometric type functions
	—	• Zeros, bounds and inequalities

Professional experience (Post Ph.D. period):

Position	Period - (dd.mm.yyyy)	Institution	Nature of work
Associate Professor	23.10.2012 -	I.I.T. Roorkee, Roorkee	Research & Teaching
Assistant Professor	03.05.2006 - 22.10.2012	I.I.T. Roorkee, Roorkee	Research & Teaching
Lecturer	10.03.2005 - 02.05.2006	Anna University, Chennai	Research & Teaching
Research Associate	24.09.2003 - 30.12.2004	I.I.T. Kharagpur, Kharagpur	Research & Teaching
Research Associate	18.05.2001 - 17.09.2003	I.I.T. Madras, Chennai	Research & Teaching
Lecturer	02.02.2000 - 17.05.2001	Meenakshi College, Chennai	Administration & Teaching

Visits abroad (selected list)

- Research Visit:
  - University of Central Florida, Orlando, USA, 08.06.2015 - 24.06.2015
  - Universiti Sains Malaysia, Penang, Malaysia, 19.05.2014 - 12.07.2014.
  - Universidade Estadual Paulista, Brazil, 12.10.2013 - 27.10.2013
  - École normale supérieure de Lyon, France, 03.06.2012 - 10.06.2012.
  - Institut Henri Poincare, Paris, France, 26.05.2012 - 02.06.2012.
  - Universidad Carlos III de Madrid, Madrid, Spain, 03.03.2012 - 11.03.2012.

- Universiti Sains Malaysia, Penang, Malaysia, 17.05.2010 - 24.06.2010.
- Universiti Sains Malaysia, Penang, Malaysia, 18.05.2009 - 17.07.2009.

- Conferences:
  - University of Kent, Canterbury, United Kingdom, 03.07.2017 - 07.07.2017
  - City University of Hong Kong, Hong Kong, 05.06.2017 - 09.06.2017
  - Paderborn University, Paderborn, Germany, 08.08.2016 - 12.08.2016
  - National Institute of Standards and Technology (NIST), Gaithersburg, Washington, 28.05.2015 - 07.06.2015
  - **I**nstituto de **C**iencias **MAT**ematicas (ICMAT), Segovia, Spain, 07.09.2014 - 12.09.2014.
  - University of Sousse, Tunisia, 25.03.2013-29.03.2013
  - Universidad Carlos III de Madrid, Madrid, Spain, 29.08.2011 - 02.09.2011.
  - American University of Sharjah, U.A.E., 18.03.2010 - 21.03.2010.
  - Asian Mathematical Society, Kuala lumpur, 22.06.2009 - 26.06.2009.
  - TC Istanbul Kultur University, Istanbul, Turkey, 20.08.2007 - 24.08.2007.
  - University of Joensuu, Finland, 13.06.2005 - 17.06.2005.

Visitors honoured (selected list)

Name	Affiliation	Period of visit
Prof. O.P. Ahuja	Kent State University Ohio, USA	23.09.2007 - 27.09.2007
Prof. H.M. Srivastava	University of Victoria, British Columbia, Canada	17.02.2012 - 20.02.2012.
Prof. A. Sri Ranga	UNESP, Sao Paulo Brazil	25.03.2014 - 10.04.2014
Prof. Christian Berg	University of Copenhagen Denmark	22.01.2015 - 26.01.2015
Prof. G.K. Srinivasan	I.I.T. Bombay Mumbai	22.01.2015 - 26.01.2015

Conferences/Short Term Courses organized

1. Organized the "International Conference on Mathematical Analysis and its Applications", ICMAA - 2016 between November 28 - December 02, 2016, involving 170 delegates from 16 countries. Link: www.iitr.ac.in/icmaa/2016/index.html
2. Organized the TEQIP-II sponsored Short Term Course on "Complex Analysis, Fourier Analysis and Special Functions (with outline on the Mathemtaical Software Techniques) in Department of Mathematics, I.I.T. Roorkee, 06.03.2017 - 10.03.2017.
3. Organized the AICTE sponsored QIP progrom on "Orthogonal Polynomials and Special Functions (using Mathematical Software), in I.I.T. Roorkee, 08.07.2013 - 12.07.2013.

Research Publications (Refereed and Science - indexed)

International Journals	:	**47**:	(**Individual 8; with students 17; with collaborators 20**)
National Journals	:	03	
Conference Proceedings	:	09:	(International 7; National 2)

Selected List of Publications::

1. Kiran Kumar Behera and A. Swaminathan, Orthogonal Polynomials related to g-fractions with missing terms, 22 pages, Comp. Methods Function Theory (Springer), accepted for publication. doi: 10.1007/s40315-017-0218-y
2. Sourav Das, Henrik L Pedersen and A. Swaminathan, Pick Functions Related to the Triple Gamma Function, 14 pages, J. Math. Anal. Appl., (Elsevier), 455(2), (2017) 1124-1138. doi: 10.1016/j.jmaa.2017.05.080
3. Priyanka Sangal and A. Swaminathan, Geometric properties of Cesàro averaging operators, 15 pages, J. Complex Analysis (Hindawi), Accepted for publication.
4. Priyanka Sangal and A. Swaminathan, Starlikeness of Gaussian hypergeometric functions using Positivity Techniques Accepted for publication Bulletin Malaysian Mathematical Sciences Society, 13 pages.
5. Rosihan M. Ali, Satwanti Devi and A. Swaminathan, Inclusion properties for a class of analytic functions defined by a second-order differential inequality, 14 pages, Accepted in Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Math. RACSAM (Springer)
6. Sourav Das and A. Swaminathan, Bounds for triple gamma functions and their ratios, Accepted for publication in Journal of Inequalities and Applications, Springer, 8 pages. DOI: 10.1186/s13660-016-1153-6
7. Kiran Kumar Behera, A. Sri Ranga, A. Swaminathan, Orthogonal Polynomials associated with complementary chain sequences, Symmetry, Integrability and Geometry: Mehtods and Applications, SIGMA, **12** (2016), 075, 17 pages.
   doi: 10.3842/SIGMA.2016.075
8. C.F. Bracciali, A.S. Ranga and A. Swaminathan, Para-orthogonal polynomials on the unit circle satisfying three term recurrence relation, Applied Numerical Mathematics (Elsevier), **109** (2016) 19–40.
9. P. Gochchayat, K. Jordaan, K. Raghavendar and A. Swaminathan, Interlacing properties and bounds for zeros of ${}_2\phi_1$ hypergeometric and little q-Jacobi polynomials , Ramanujan Journal. **40** (1) (2016) 45–62. d.o.i: 10.1007/s11139-015-9709-5,
10. A. Baricz, Saiful R. Mondal, A. Swaminathan, Monotonicity properties of the Bessel-Struve Kernel, Accepted in Bull. Korean Math. Soc. (2016), 8 pages.
11. Y.L. Chung, M.H. Mohammed, A. Swaminathan and S.K. Lee, Starlikeness of triple integral operators, Far East Journal of Mathematical Sciences, **99** (6) (2016) 793–801.
12. Sourav Das and A. Swaminathan, Some New inequalities for the ratio of gamma functions, M3HPCST 2015, Ghaziabad, Springer Proceedings in Mathematics and Statistics, Volume 171, Springer, Singapore, 2016, 239 – 248.

13. Sourav Das and A. Swaminathan, Higher order derivatives of R-Jacobi polynomials, ICMSS-2016, Malaysia, AIP Conference Proceedings, Vol. 1739, 020058 (2016), 8 pages. doi: 10.1063/1.4952538
14. Satwanti Devi, H.M.Srivastava and A. Swaminathan, Inclusion properties of a class of functions involving Dziok-Srivastava Operator, Korean J. Math., (2016) **24** (2016)(2) 139–168.
15. Satwanti Devi and A. Swaminathan, Application of convolution theory on non-linear integral operators, Korean J. Math. **24** (3) (2016) 409–445. doi: 0.11568/kjm.2016.24.3.409
16. A. Baricz and A. Swaminathan, Mapping properties of basic hypergeometric functions, Journal of Classical Analysis, Vol.5, No.2 (2014) 115-128. doi:10.7153/jca-05-10
17. Satwanti Devi and A. Swaminathan, Integral transforms of functions to be in the Pascu class using duality techniques, Journal of Complex Analysis, Hindawi publications, Article ID 473069, (2014) 1-10. doi:10.1155/2014/473069
18. R. Chandrasekhar, Rosihan M. Ali, K.G. Subramanian and A. Swaminathan Starlikeness of functions defined by third order differential inequalities and integral operators, Abstract and Applied Analysis, Hindawi Publishing Corporation, (2014), Article ID 723097, 6 pages, doi:10.1155/2014/723097.
19. Satwanti Devi and A. Swaminathan, Starlikeness and convexity of certain integral transforms using duality technique, Accepted in *Current topics in Pure and Computational Complex Analysis*, Trends in Mathematics, Edited by M.Dorff, I. Lahiri and S.B. Joshi, Springer Verlag, 2014, 147-169.
20. A. Baricz, K. Raghavendar and A. Swaminathan, Turan's type and mean inequalities for certain q-hypergeometric functions, **J. Approximation Theory (Elsevier)**, 168 (2013) 69-79.
21. O.P. Ahuja, S.B. Joshi and A. Swaminathan, Inclusion theorems of multivalent harmonic mappings determined by generalized harmonic hypergeometric operators, Math. Sci. Res. J., 17(4) (2013) 111-122.
22. Rosihan M. Ali, Mahnaz M. Nargesi, V. Ravichandran and A. Swaminathan, Inclusion criteria for subclasses of functions and Gronwall's inequality, Tamsui Oxfard J. Math. Sci. 29 (1) (2013) 61–75.
23. Saiful R. Mondal and A. Swaminathan, Stable functions and an extension of Vietoris' theorem, Results in Mathematics (**Birkhäuser Mathematics, Springer**), 62 (1) (2012) 33–51. DOI 10.1007/s00025-011-0127-8.
24. K. Raghavendar and A. Swaminathan, Integral transforms of functions to be in certain class defined by the combination of starlike and convex functions, **Computers and Mathematics with Applications (Elsevier)**, **63** (2012) 1296–1304.
25. Pradeep Malik and A. Swaminathan, Derivatives of a finite class of orthogonal polynomials defined on the positive real line related to inverse-gamma distribution, **Applied Mathematics and computation (Elsevier)**, 218 (2012) 6251-6262. d.o.i.: 10.1016/j.amc/2011.11.078

26. K. Raghavendar and A. Swaminathan, Close-to-convexity of basic hypergeometric functions using their Taylor coefficients, **J. Math. Appl.(Poland)**, 35 (2012), 111-125.
27. R.M. Ali, Abeer O. Badghaish, V. Ravichandran and A. Swaminathan, Starlikeness of Integral Transforms and Duality, **J. Math. Anal. Appl.(Elsevier) 385** (2012), 808-822. doi:10.1016/j.jmaa.2011.07.014.
28. Saiful R. Mondal and A. Swaminathan, Geometric properties of generalized Bessel functions, **Bull. Malaysian Math. Soc.** 35(2) (2012) 179-194.
29. Saiful R. Mondal and A. Swaminathan, On the positivity of certain trigonometric sums and their applications, **Computers and Mathematics with Applications (Elsevier)**, **62** (2011) 3871-3883.
30. Pradeep Malik and A. Swaminathan, Derivatives of a finite class of orthogonal polynomials defined on the positive real line related to F-distribution, **Computers and Mathematics with Applications (Elsevier)**, 61 no. 4, (2011) 1180-1189.
31. Rosihan M. Ali, K. G. Subramanian, See Keong Lee and A. Swaminathan, Starlikeness of Solutions to a Third-Order Differential Equation, Article No. 901235, **Abstract and Applied Analysis, Hindawi**, (2011) 12 pages.
32. Rosihan M. Ali, R. Chandrashekar, S.K. Lee, V. Ravichandran and A. Swaminathan, Differential sandwich theorem for multivalent analytic functions associated with the Dziok - Srivastava operator, **Tamsui Oxfard J. Math. Sci.** 27 (3), (2011) 327-350.
33. Rosihan M. Ali, R. Chandrashekar, S.K. Lee, V. Ravichandran and A. Swaminathan, Differential sandwich theorem for multivalent meromorphic functions associated with the Liu - Srivastava operator, **Kyungpook J. Math.**, 51 (2), (2011) 217-232.
34. Pradeep Malik, Saiful R. Mondal and A. Swaminathan, Fractional integration of Generalized Bessel function of the first kind, DETC2011-48950, Proceedings of the ASME 2011 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC/CIE 2011 August 28-31, 2011, Washington, DC, USA, 10 pages.
35. Pradeep Malik and A. Swaminathan, Riemann-Liouville Fractional calculus of certain finite class of classical orthogonal polynomials, **Conference Proceedings of the American Institute of Physics, Vol. 1309**, 658-669, for the International Conference in Mathematical Sciences, Bolu, 23-27, November 2010.
36. A. Swaminathan, Sufficient conditions for hypergeometric functions to be in certain class of Analytic functions, **Computers and Mathematics with Applications(Elsevier)**, 59 (2010) 1578-1583.
37. Saiful R. Mondal and A. Swaminathan, Geometric properties of generalized Polylogarithm, **Integral Transforms Spec. Funct. (Taylor and Francis)**, 21(9) (2010) 691-701.
38. A. Swaminathan, Univalent polynomials and fractional order differences of their coefficients, **J. Math. Anal. Appl.(Elsevier)** 353 (2009) 232-238.
39. Saiful R Mondal and A. Swaminathan, Coefficient conditions for univalency and starlikeness of analytic functions, **J. Math. Appl.(Poland)**, 31 (2009) 79-92.

40. C. Ramachandran, S.Sivasubramanian, H.M. Srivastava and A. Swaminathan, *Coefficient inequalities for certain subclasses of analytic functions and their applications involving the Owa-Srivastava operator of fractional calculus* , **Math. Inequal. Appl.**, 12 (2) (2009), 351-363.
41. C. Ramachandran, H.M. Srivastava and A. Swaminathan, *A unified class of K-uniformly convex functions defined by the Salagean derivative operator* , **Atti Semin. Mat. Fis. Univ. Modena Reggio Emilia** 55 (2007),1-13.
42. A. Swaminathan, *Convexity of the Incomplete beta functions*, **Integral Transforms and Special Functions (Taylor and Francis)**, **18**(7) (2007) 521-528.
43. C. Ramachandran, T.N. Shanmugam, H.M. Srivastava and A. Swaminathan, *A unified class of k-uniformly convex functions defined by the Dziok Srivastava linear operator*, **Applied Mathematics and Computation (Elsevier)**, 190 (2007) 1627-1636
44. A. Swaminathan, *Inclusion theorems of convolution operators associated with normalized hypergeometric functions*, **J. Comput. Appl. Math.(Elsevier)**, 197 (1) (2006) 15-28.
45. A. Swaminathan, *Sufficiency for hypergeometric functions to be associated with conic regions*, **Math. Computer Modelling(Elsevier)**, 44 (2006) 276-286.
46. A. Swaminathan, *Certain sufficiency conditions on Gaussian hypergeometric functions*, **J. Inequal. Pure Appl. Math**, 5(4) Art. 83, (2004) 1-10.
47. A. Swaminathan, *Polynomial Approximation of Outer functions*, **Ann. Univ. Mariae Curie-Skłodowska Sect. A(Poland)**, 58 (2004) 117-123.
48. A. Swaminathan, *Hypergeometric functions in the parabolic domain*, **Tamsui Oxford Journal of Mathematical Sciences** , 20(1) (2004) 1-16.
49. R.Parvatham and A. Swaminathan, *On hypergeometric transforms of certain class of Schlicht functions*, **Pan American Math. J.**, 10(2) (2000) 73-77.
50. R.Bharati, R.Parvatham and A. Swaminathan, *On subclasses of Uniformly Convex Functions and corresponding class of Starlike functions*, **Tamkang J. Math.**, 28(1) (1997) 17-32.
51. R.Bharati, R.Parvatham and A. Swaminathan, *On a certain class of functions of Bounded Boundary Rotation*, **Yokohama math. J.** 45 (1995) 109-115.

Online activities

1.
   - Title: Web course on "Complex Analysis".
   - Publisher: NPTEL, IIT
   - Status: Uploaded and active online
   - URL: http://www.nptel.ac.in/courses/111107056/

Invited talks

1. Invited talk on "Hypergeometric type polynomials related to zero free approximant" at the International Conference on Analysis and its Applications 2015, Aligarh Muslim University, Aligarh, on December 20, 2015.
2. Invited talk on "Certain inequalities involving hypergeometric type functions " at the International Conference on Special Functions and its Applications 2015, Amity University, Noida, on September 10, 2015.
3. Invited Lecture on "Applications of Complex Analysis in Nanotechnology", in Department of Mathematics, Yashwantrao Chavan College of Engineering, Nagpur, Maharashtra on July 13, 2015.
4. Invited Lecture on "Birth and Death Process - an application of Differential Equations in real world problems", in Department of Mathematics, Yashwantrao Chavan College of Engineering, Nagpur, Maharashtra on July 13, 2015.
5. Invited Lecture on "Real life applications of Differential Equations" in Department of Mathematics, Bannari Amman Institute of Technology, TamilNadu on July 6, 2015.
6. Invited Lecture on "Results on Positivity of Trigonometric Polynomials", Department of Mathematics, University of Central Florida, Orlando, USA on June 15, 2015.
7. Plenary lecture on "Extreme points and support points in Geometric function theory", National Workshop on Geometric Function Theory and its Applications 2015, Anna University, Chennai, April 24, 2015.
8. Invited lecture on "Positivity of Trigonometric Polynomials", Anna University, Chennai, April 23, 2015.
9. Ratios of hypergeometric functions: Inequalities and Applications, International Conference on Geometric Function Theory and its applications, I.I.T. Kharagpur, 18-21, December 2014.
10. On the interlacing of zeros and related bounds for certain classes of orthogonal polynomials, International Conference on Mathematics and its Applications, College of Engineering, Villupuram, Anna University, 15-17, December 2014.
11. Pick functions and Ratios of hypergeometric type functions, International Conference on Special Functions and their Applications, ICSFA 2014, Thapar University, Patiala, India, October 16-18, 2014.
12. Turan type inequalities for Gaussian and Basic hypergeometric funtions, **School of Mathematical Sciences, Universiti Sains Malaysia, Penang, Malaysia**, June 30, 2014.
13. Minicourse on "Linearity and convexity problems in Geometric Function Theory", **School of Mathematical Sciences, Universiti Sains Malaysia, Penang, Malaysia**, June - July, 2014.
14. Turan inequalities for functions of hypergeometric type, **International Conference on Special Functions and Applications, ICSFA 2013, MNIT Jaipur**, December 13-15, 2013
15. Turan inequalities for special functions of hypergeometric type, **Department of Mathematics, Universidade Estadual Paulista, SP, Brazil**, October 24, 2013.

16. Minicourse on "Positivity of Trigonometric Polynomials", **Department of Mathematics, Universidade Estadual Paulista, SP, Brazil**, October 14-22, 2013.
17. Series of talks on "Role of hypergeometric functions in Geometric function theory", **International Workshop on Complex Analysis and Its Applications**, Walchand College of Engineering, Sangli, India, June 11-15, 2012.
18. Polynomial Approximation of Outer Functions and Zeros of the Approximants, **Unité de mathématiques pures et appliquées, École normale supérieure de Lyon, France**, June 06, 2012.
19. Pick functions, chain sequences and hypergeometric type functions, Group of Applied Mathematical Analysis, Department of Mathematics, **Universidad Carlos III de Madrid, Madrid, Spain**, March 08, 2012.
20. Role of hypergeometric functions in Geometric function theory, **National Seminar on Recent advances in Mathematics**, Brahmanand College, Kanpur, 12.02.2011.
21. Continued fraction expansion for certain hypergeometric functions, **Centre for Mathematical Sciences, Pala, Kerala** January 04, 2011.
22. Geometric properties of Generalized Polylogarithm, **School of Mathematical Sciences, Universiti Sains Malaysia, Penang, Malaysia**, June 22, 2010.
23. Series of talks on "properties of Hypergeometric functions in Geometric Function Theory", **School of Mathematical Sciences, Universiti Sains Malaysia, Penang, Malaysia**, June - July, 2009.
24. Two day workshop on the Applications of MATHEMATICA at Undergraduate Level Mathematics, Department of Mathematics, University of Delhi, New Delhi, March 26-27, 2009 (series of lectures)
25. Orthogonal polynomials and Special functions - Computational approach Centre for Professional Development in Higher Education, University of Delhi, Delhi 110 007, February 11 - 12, 2009 (series of lectures).
26. Polynomial approximation of outer functions and zeros of the Approximants, Department of Mathematics, I.I.T. Kanpur, September 29, 2005.
27. Role of Special functions in Function theory, National conference in Analysis and related topics, held in Institute of Mathematics and Applications, Orissa on May 26, 2005.

Papers Presented in International conferences

1. On the modified parameters of Orthogonal polynomials, 14th International Symposium on Orthogonal Polynomials, Special Functions and its Applications (OPSFA 14), University of Kent, Canterbury, UK, July 3-7, 2017.
2. Pick functions and perturbation of parameters of orthogonal polynomials, International Conference on Special Functions and its Applications, ICSFA 2017, City University of Hong Kong, Hong Kong, June 5-9, 2017.
3. Orthogonal polynomials on the real line corresponding to a perturbed chain sequence, Dunkl operators, Special Functions and harmonic analysis, Conference in honour of Charles Dunkl, University of Paderborn, Germany, August 8-12, 2016

4. On Verblunsky Coefficients related to a particular class of Carathéodary functions, 13th International Symposium of Orthogonal Polynomials Special functions and Applications, 13OPSFA, National Institute of Standards and Technology (NIST), Gaithersburg, Washington, USA June 1-5, 2015.
5. A generalized class of orthogonal polynomials related to Gaussian hypergeometric functions, CRM-ICMAT workshop on Exceptional Orthogonal Polynomials and exact solutions in Mathematical Physics (XOPCONF), Segovia, Spain, September 7-12, 2014.
6. On the interlacing of zeros and related bounds for certain finite class of orthogonal polynomials, 12th International Symposium of Orthogonal Polynomials Special functions and Applications, 12OPSFA, Sousse, Tunisia, March 25-29, 2013.
7. Pick functions and chain sequences for hypergeometric type functions, 11th International Symposium of Orthogonal Polynomials Special functions and Applications, 11OPSFA, Universidad Carlos III de Madrid, Madrid, Spain, August 29 - September 02, 2011.
8. Extension of stable functions and Vietoris theorem, First International Conference on Mathematics and Statistics, American University of Sharjah, Sharjah, U.A.E., March 18-21, 2010.
9. Starlikeness and convexity of hypergeometric functions International symposium on Geometric Function theory and Applications, TC Istanbul Kultur University, Istanbul, Turkey, August $20 - 24$, 2007.
10. On Mapping properties of Basic hypergeometric series, Presented in the International Conference on "Computational Methods in Function Theory - 2005", held in University of Joensuu, Finland, during June 13-17, 2005.

Details of research / Consultancy project:

- Nature of the Project : Faculty Initiation Grant Scheme - A
  Funding agency : SRIC, IIT Roorkee
  Title of the Project : Positivity of Polynomial sums
  : in Geometric Function Theory
  Duration of the Project : 2006 -2007, 1 year
  Value of the Project : 0.88 Lakhs
  Co-investigators : NIL
  Status of the Project : completed
- Nature of the Project : SERC DST - Project
  Funding agency : DST, New Delhi
  Title of the Project : Applications of hypergeometric functions
  : in Geometric Function Theory
  Duration of the Project : 2006 -2009, 3 years
  Value of the Project : 2.03 Lakhs
  Co-investigators : NIL
  Status of the Project : Completed

Research Supervision:(Research Students)

	Institute	Course	Name	Title of the Thesis
1.	I.I.T. Roorkee	Ph.D. (**Completed**) 2010	Saiful Rahman Mondal	Geometric properties of hypergeometric type functions using positivity theory
2.	I.I.T. Roorkee	Ph.D. (**Completed**) 2012	Pradeep Malik	Finite Class of Orthogonal Polynomials defined on the positive real line
3.	I.I.T. Roorkee	Ph.D. (**Completed**) 2013	K. Raghavendar	Geometric properties of hypergeometric functions and their q-analogue
4.	I.I.T. Roorkee	Ph.D. (**Completed**) 2015	Satwanti Devi	Geometric Properties of Integral transforms of a second order differential inequality
5.	I.I.T. Roorkee	Ph.D. (**Completed**) Sept 2017	Sourav Das	Representations and monotonic properties related to triple gamma functions
6.	I.I.T. Roorkee	Ph.D. (Current)	Kiran Kumar Behera	Modular forms and Partition theory
7.	I.I.T. Roorkee	Ph.D. (Current)	Priyanka Sangal	Positivity techniques of hypergeometric Polynomials
8.	I.I.T. Roorkee	Ph.D. (Current)	Lateef Wani	Approximation in Function Theory

Research Supervision:(Master Degree Dissertations)

	Institute	Course	Name	Year	Title of the Thesis
1.	Anna University	M.Phil.	Shobana Sharma	2006	Multipliers of Hardy spaces
2.	I.I.T. Roorkee	M.Sc.	Sai Kumar	2007	Solution to the Dirichlet Problem - Capacity
3.	I.I.T. Roorkee	M.Sc.	Bharath Kumar	2007	Coefficient estimates in Geometric function theory
4.	I.I.T. Roorkee	M.Sc.	Natasha Sharma	2008	Spatial Domain Filtering in Image Enhancement
5.	I.I.T. Roorkee	M.Sc.	Ram Mohan Pandey	2008	Sound Recognition Model for Hearing Impaired
6.	I.I.T. Roorkee	M.C.A.	C. Selvakumar	2009	Controlling IP spoofing through inter domain packet filters
7.	I.I.T. Roorkee	M.C.A.	A. Srinivasa Rao	2010	Design and development of Network packet analyser
8.	I.I.T. Roorkee	M.C.A.	Swati Bansal	2010	Database Management for Mobile phone phone-book

9.	I.I.T. Roorkee	M.Sc.	Kiran Kumar Behera	2010	Certain algorithms on Continued fractions
10.	I.I.T. Roorkee	M.C.A.	Divya Garg	2011	End to End Automation of Patch Management Cycle
11.	I.I.T. Roorkee	M.C.A.	Vipin Nande	2011	Design and Development of Subscription manager
12.	I.I.T. Roorkee	M.C.A.	Susmita Harrow	2012	IDS architecture of IAAS based attacks on cloud
13.	I.I.T. Roorkee	M.C.A.	Naman Varshney	2012	Real time global earthquake loss estimation and visualization
14.	I.I.T. Roorkee	M.Sc.	Tarul Garg	2013	Turan type inequalities for Orthogonal Polynomials
15.	I.I.T. Roorkee	M.Sc.	Sheetal Deswal	2013	Riemann-Hilbert Problem for Orthogonal Polynomials
16.	I.I.T. Roorkee	M.Sc.	Sarita	2013	Interlacing of zeros for Orthogonal Polynomials
17.	I.I.T. Roorkee	M.Sc.	Savita	2013	Convexity and bounds for Orthogonal Polynomials
18.	I.I.T. Roorkee	M.Sc.	Venkatramana Kollati	2016	Elliptic curves & Fermat's Last Theorem
19.	I.I.T. Roorkee	M.Sc.	Anjana Deepu	2016	Numerical improvement in for Closed Newton-Cotes Formula
20.	I.I.T. Roorkee	M.Sc.	Sachin	2017	Differential equations with symmetric factors
21.	I.I.T. Roorkee	M.Sc.	Meghna Sharma Sharma	2017	Order of Solutions of Linear Differential Equations in the unit disc
22.	I.I.T. Roorkee	M.Sc.	Bipasha Pal	2017	Hankel Operator Norm on Function Spaces

Referee and Reviewer for Journals:

- **Guest Editor** Journal of Analysis, **Springer** for the Special Volume on ICMAA - 2016
- **Editor-in-Chief**, Intl. Journal of Computing and Mathematical Applications.
- **Editorial Board Member**, Advances in Applied Mathematical Analysis.
- **Editorial Board Member**, Far East Journal of Mathematics.
- Reviewer in Zentralblatt fur mathematik and Mathematical Reviews
- Refereeing articles in various International Mathematics Journals including
  - Springer, Elsevier and Hindawi publications.

Membership:

- Member of SIAM Activity Group (SIAG): Orthogonal Polynomials and Special Functions
- Outreach Member of Society for Industrial and Applied Mathematics (SIAM) group, USA

- Sponsored member of American Mathematical Society.
- Life Member of Society for Special Functions and their Applications, India
- Life member of the Association of Mathematics Teachers of India.
- Fellow of the Forum d' Analystes (publishers of the Journal of Analysis), Chennai (an international association from Indian origin to develop mathematical analysis)
- Member of RGMIA, (Research Group in Mathematical Inequalities and Applications), Australia.

Conferences / Symposiums / Workshops organized:

- **:** TEQIP-II sponsored Short Term Course on "Complex Analysis, Fourier Analysis and Special Functions (with outline on the Mathemtaical Software Techniques)
  : Date: and Venue: 06.03.2017 - 10.03.2017, Department of Mathematics, I.I.T. Roorkee
  : Capacity: Course Coordinator
  : Resource persons: Prof. G.K.Srinivasan (I.I.T. Bombay), Prof. D. Sukumar (I.I.T. Hyderabad), Prof. Indrajit Lahiri (University of Kalyani)
- **:** International Conference on Mathematical Analysis and its Applications", ICMAA - 2016
  : Date and Venue: November 28 - December 02, 2016, I.I.T. Roorkee
  : Capacity: Convener
  : Link: www.iitr.ac.in/icmaa/2016/index.html
  : Details: involving 170 delegates from 16 countries.
- **:** AICTE sponsored QIP progrom on "Orthogonal Polynomials and Special Functions (using Mathematical Software)
  : Date and Venue: 08.07.2013 - 12.07.2013, I.I.T. Roorkee
  : Capacity: Convener
  : Resource persons: Prof. G.K. Srinivasan, I.I.T. Bombay