

## CURRICULM - VITAE

### PERSONAL DETAILS:

Name: Dr. Uaday Singh  
Date of Birth: 2<sup>nd</sup> February, 1980  
Nationality: Indian  
Designation: Associate Professor  
Department of Mathematics  
Indian Institute of Technology Roorkee  
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### EDUCATIONAL QUALIFICATIONS:

- High School from U.P. Board in 1994 with 1<sup>st</sup> division.
- Intermediate from U.P. Board in 1996 with 1<sup>st</sup> division.
- B. Sc. from Chaudhary Charan Singh University, Meerut, Uttar Pradesh in 1999 with 1<sup>st</sup> division.
- M. Sc. (Mathematics) from Chaudhary Charan Singh University, Meerut, Uttar Pradesh in 2001 with 1<sup>st</sup> division.
- Ph. D. on the topic '**Fourier Approximation in  $L_p(p \geq 1)$ - Spaces Using Summability Techniques**' from Chaudhary Charan Singh University, Meerut and IIT Roorkee in 2007.
- CSIR-UGC, National Eligibility Test-December 2001 with the award of UGC - JRF.
- CSIR-UGC, National Eligibility Test-June 2002 with the award of CSIR - JRF.

### EMPLOYMENTS AND EXPERIENCE:

- Worked as a Junior Research Fellow at IIT Roorkee from 3<sup>rd</sup> January, 2003 to 9<sup>th</sup> November, 2003.
- Worked as a Lecturer in the Department of Education in Science & Mathematics, NCERT, New Delhi from 10<sup>th</sup> November, 2003 to 20<sup>th</sup> January, 2006.
- Worked as a Lecturer in the Department of Mathematics, Faculty of Science BHU, Varanasi, from 21<sup>st</sup> January, 2006 to October, 2010 (scale Rs. 8000-13500). [on lien from November 2007 to December 2009 to join ISM Dhanbad as an Assistant Professor in the pay scale Rs. 12000-18300]
- Working as an Assistant in the Department of Mathematics, IIT Roorkee, Roorkee from November, 2010 (In PB-3 + AGP Rs. 8000/-)

### COURSES TAUGHT AT UG/PG LEVEL:

UG Level: Vector Calculus, Differential and Integral Calculus, Differential Equations (ODE& PDE), Real Analysis

PG Level: Real Analysis, Complex Analysis, Functional Analysis.

### **UG/PG PROJECT GUIDENCE:**

Post Graduate: 24

Under Graduate: 03

### **Ph.D. GUIDENCE:**

Completed: 03

Ongoing: 03

### **COURSE/SEMINARS/CONFERENCES ATTENDED:**

1. Four Week Orientation Course Conducted by NCERT, New Delhi during 07 February- 04 March, 2005.
2. One Week Short Term Course on ‘Soft Computing’ Conducted by IIT Roorkee during July 1-5, 2008.
3. Attended International Conference On ‘Optimization and Its Applications’ held at the BHU, Varanasi held during February 16-18, 2010.
4. Presented a paper entitled “Degree of Approximation of Function  $f \in \mathcal{C}_p^{(w)}$  Class in Generalised Hölder Metric by Matrix Means” in the ‘International Conference on Mathematical Modelling and Scientific Computation’ March 16-18, 2012 organized by Gandhigram Rural Institute, Gandhigram, Tamil Nadu.
5. Presented a paper entitled “Trigonometric Approximation of Signals (Functions) Belonging to Weighted  $(L^p, \xi(t))$ -Class by Hausdorff Means, in the ‘International Conference on Applied Mathematics and Approximation Theory’ May 17-20, 2012, organized by the TOBB University, Ankara, Turkey,
6. Presented a paper entitled “Trigonometric Approximation of Functions Belonging to Lipschitz Classes  $Lip\alpha$  and  $W(L^p, \xi(t))$ -Class by Matrix  $(C^1.T)$  Operator” in the International Congress in Honour of Professor H. M. Srivastava’, August 23-26, 2012, organized by the Uludag University, Bursa, Turkey.
7. Presented a paper entitled “Degree of Approximation of Functions Conjugate to Functions Belonging to Lipschitz Class  $Lip\alpha$  by  $(C^1.T)$  Operator” in the International Conference on Mathematical Sciences (ICMS-2012), December 28-31, 2012 organized by the Shivaji Science College, Nagpur (India).
8. Presented a paper entitled “Fourier Approximation of Functions Conjugate to the Functions Belonging to Weighted Lipschitz Class” in the World Congress on Engineering (WCE-2013), July 3-5, 2013 held at Imperial College London.
9. Attended the Seventh Conference on Function Spaces at SIUE 2014, Edwardsville, USA held during May 20-24, 2014 and given a talk on Best  $L_p$  Approximation of Moment Convergent Series.
10. Presented a paper entitled ‘Convergence of Matrix Means of Mellin – Fourier Series’ in Second International Conference on Mathematics and Statistics (AUS-ICMS’15)’ organized by the American University of Sharjah during April 2-5, 2015.

### **MEMBERSHIP OF PROFESSIONAL BODIES:**

1. Life member of Indian Mathematical Society (IMS)
2. Life member of International Society for Analysis, its Applications and Computation (ISAAC)
3. Regular member of American Mathematical Society (AMS) till 31 December 2021.
4. Life member of International Association of Engineers (IAENG)

### **ORGANIZATION OF WORKSHOP/CONFERENCE:**

1. Worked as Co-convener for the International Conference on Mathematical Analysis and Its Applications, November 28- December 02, 2016.
2. Worked as Co-convener for the International Conference on Recent Trends In Mathematical Analysis and Its Applications, December 21-23, 2014.
3. Worked as Co-convener for One Day Workshop on Applicable Analysis, March 05, 2016.
4. Worked as Co-convener for One Week Short Term Course on Mathematical Analysis and Applications, July 4-8, 2016.

### **LIST OF PUBLICATIONS:**

#### **Research Papers in Journals:**

1. Shalini Priti, Saurabh Shyam Mittal, **Uday Singh**, Vinay Kumar, Approximation of Functions by Matrix Means of Walsh-Fourier series, Advances in Mathematics Research, USA, 5(2003), 31- 45.
2. M. L. Mittal, **Uday Singh**, Vishnu N. Mishra, Shalini Priti, Saurabh Shyam Mittal, Approximation of functions (signals) belonging to  $Lip(\xi(t), p)$  - class by means of conjugate Fourier series uses linear operators, Indian J. Math. Vol. 47, Nos. 2 - 3, (2005), 217-229.
3. M. L. Mittal, **Uday Singh**, V. N. Mishra, Approximation of functions (signals) belonging to  $W(L_p, \xi(t))$ - class by means of conjugate Fourier series using Nörlund operators, Varāhmihir J. Math. Sci. India, Vol. 6, No.1, (2006), 383-392.
4. Vishnu N. Mishra, M. L. Mittal, **Uday Singh**, On best approximation in locally convex space, Varāhmihir J. Math. Sci. India, Vol. 6, No.1, (2006), 43-48.
5. M. L. Mittal, **Uday Singh**, V. N. Mishra, On the strong Nörlund summability of conjugate Fourier series, Appl. Math. Comp. 187(2007), 326-331.
6. M. L. Mittal, B. E. Rhoades, V. N. Mishra, **Uday Singh**, Using Infinite Matrices to Approximate Functions of Class  $Lip(\alpha, p)$  using Trigonometric Polynomials, J. Math. Anal. Appl. 326(2007), 667-676.
7. M. L. Mittal and **Uday Singh**,  $T.C_1$  Summability of a Sequence of Fourier Coefficients, Appl. Math. Computation, 204(2) (2008), 702-706.
8. M. L. Mittal, B. E. Rhoades, Smita Sonker, **U. Singh**, Approximation of signals of class  $Lip(\alpha, p)$  by linear operators, Appl. Math. Computation, 217(9) (2011), 4483-4489.
9. **Uday Singh**, M. L. Mittal, Smita Sonker, Trigonometric Approximation of Signals (Functions) Belonging to  $W(L^r, \xi(t))$  - Class by Matrix  $(C^1 \cdot N_p)$  Operator, Int. J. Math. & Math. Sci., 2012 (2012), 1-11.

10. Smita Sonker, **Uday Singh**, Degree of approximation of the conjugate of signals (functions) belonging to  $Lip(\alpha, r)$ -class by  $(C,1)(E, q)$  means of conjugate trigonometric Fourier series, *Journal of Inequalities and Applications*, 128(2012), 1-7.
11. **Uday Singh**, Smita Sonker, Trigonometric Approximation of Signals (Functions) Belonging to Weighted  $(L^p, \xi(t))$ -Class by Hausdorff Means, *J. Applied Functional Analysis*, 8(1) (2013), 37-44.
12. **Uday Singh**, Shailesh Kumar Srivastava, Degree of Approximation of Functions in Lipschitz Class with Muckenhoupt Weights by Matrix Means, *IAENG Int. J. Appl. Maths.*, 43(4)(2013), 190-194
13. **Uday Singh**, Shailesh Kumar Srivastava, Approximation of Conjugate of functions belonging to weighted Lipschitz class  $W(L^p, \xi(t))$  by Hausdorff means of conjugate Fourier series, *J. Compu. Appl. Maths*, 259 (2014), 633-640.
14. Shailesh Kumar Srivastava, **Uday Singh**, Trigonometric approximation of periodic functions belonging to  $Lip(\omega(t), p)$ -class, *J. Compu. Appl. Maths.*, 270(2014), 223-230.
15. **Uday Singh**, Shailesh Kumar Srivastava, Trigonometric approximation of functions belonging to certain Lipschitz classes by  $C^1.T$  operator, *Asian-European Journal of Mathematics*, 7(4) (2014), 1450064 (13 pages).
16. Shashi Sharma, **Uday Singh**, V. K. Katiyar, Magnetic Field Effect on Floe Parameters of Blood along with Magnetic Particles in a Cylindrical Tube, *J. Magnetisms and Magnetic Materials*, 377(2015) 395 - 401.
17. Shashi Sharma, V. K. Katiyar, **Uday Singh**, Mathematical Modelling for Trajectories of Magnetic Nanoparticles in a Blood Vessel under Magnetic Field, *J. Magnetisms and Magnetic Materials*, 379(2015) 102-107.
18. Soshal, **Uday Singh**, Approximation of periodic integrable functions in terms of modulus of continuity, *Acta et Commentationes Universitatis Tartuensis de Mathematica*, 20(1), 2016, 23-34.
19. **Uday Singh**, Birendra Kumar, Convergence of Matrix Means of Mellin Fourier Series, *Palestine Journal of Mathematics*, 5(1), 2016, 269-274.
20. Soshal Saini, **Uday Singh**, Degree of approximation of functions belonging to  $Lip(\omega(t), p)$ -class by linear operators based on Fourier series, *Boll. Unione Mat. Ital.*, DOI 10.1007/s40574-016-0064-2, 1-10.
21. **Uday Singh**, Soshal Saini, Approximation of Periodic Functions in certain subclasses of  $L_p [0, 2\pi]$ , *Asian-European J. Math.* **0**, 1750046 (2016) [12 pages].
22. Shailesh Kumar Srivastava, **Uday Singh**, On T-Strong Convergence of Numerical Sequences and Fourier Series, *Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci.* (2016), 1-6.

**Research Papers in Conference Proceedings:**

23. **Uday Singh**, Smita Sonker, Degree of Approximation of Function  $f \in CH_p^{(w)}$  Class in Generalised Hölder Metric by Matrix Means, *Communications in Computer and Information Sciences (Springer-Verlag)*, 283 (2012), 1-10. [*Proceedings of ICMMS-2012 held at Gandhigram Tamilnadu during March 16-18,*

2012].

24. Smita Sonker, **Uday Singh**, Approximation of Signals (Functions) Belonging to  $Lip(\alpha, p, w)$ - Using Trigonometric Polynomials, *Procedia Engineering* (Elsevier), 38(2012), 1575-1585. [*Proceedings of ICMOC-2012 held at Noorul Islam Centre for Higher Education during April 11-12, 2012*].
25. **Uday Singh**, Shailesh Kumar Srivastava, Fourier Approximation of Functions Conjugate to the Functions Belonging to Weighted Lipschitz Class, *Lecture Notes in Engineering and Computer Science*, 1(2013), 236-240. [*Proceedings of WCE-2013 held at Imperial College of London, July 3-4, 2013*].
26. Shailesh Kumar Srivastava, **Uday Singh**, Trigonometric approximation of periodic functions belonging to weighted Lipschitz class  $W(L_p, \Psi(t), \beta)$ , *Contemporary Mathematics (CONM) Book Series* Published by AMS [*Proceedings of the 7<sup>th</sup> Conference on Function Spaces at SIUE 2014, Edwardsville, USA held during May 20-24, 2014*], Vol. 645 (2015), pp. 283-291.
27. Soshal, **Uday Singh**, Degree of approximation of  $f \in L[0, \infty)$  by means of Laguerre – Fourier series, *Mathematical Analysis and Its Applications* (Springer Proceedings in Mathematics & Statistics, Vol. 143) [*Proceedings of ICRTMAA 2014 held at IIT Roorkee during December 21-23, 2014*], pp. 207-217.
28. Shashi Sharma, Anurag Gaur, **Uday Singh**, V. K. Katiyar, Modelling and Simulation of Magnetic Nanoparticles Transport in a Channel for Magnetic Drug Targeting [*Proc. of Int. Conf. on Fluid and Aerodynamics* (2014)], ISBN 978-1-61804-268-2, (2015), 116-120.

#### **Books/Chapters/Monographs:**

1. PN Agrawal, RN Mohapatra, **U Singh**, HM Srivastava, *Mathematical Analysis and its Applications: Roorkee, India, 143(2014)* (Edited the Proceedings Published by Springer).
2. **Uday Singh**, Shailesh Kr. Srivastava, On the Degree of Approximation of Conjugate Functions in Weighted Lipschitz Class, Book chapter), *IAENG Transactions on Engineering Sciences* by CRC Press/Balkema, Taylor & Francis Group, pp. 81-89(2014).
3. **Uday Singh**, *Fourier Approximation in  $L_p$  – Spaces* (A monograph), VDM Verlag Dr. Müller Aktiengesellschaft & Co. KG, Germany, ISBN-NR 978-3-639-20410-0 (2009).
4. Reviewed the book “Theory and Problems of Complex Variables, SI (metric edition) by Spiegel” for its 2009 Edition.
5. A Chapter entitled STRAIGHT LINES in Mathematics Textbook for Class XI, published by NCERT, New Delhi (2006).
6. A Chapter entitled COORDINATE GEOMETRY in Mathematics Textbook for Class IX, published by NCERT, New Delhi (2006).