

1. Name : **Dr. SUNIL DUTT PUROHIT**
2. Date of Birth : March 5, 1979
3. Present position : Asstt. Prof. of Mathematics & Incharge
Deptt. of Basic-Science, CTAE



4. Academic Qualifications

Ph. D. (2005) : J.N. Vyas University, Jodhpur
NET-JRF (2002-June) : Joint CSIR-UGC
M. Sc. (2001) (80.80%) : J.N. Vyas University, Jodhpur

5. Fields of research work

- (a) Fractional calculus
- (b) Special functions
- (c) Integral transforms
- (d) Basic Hypergeometric functions
- (e) Geometric Function Theory

6. Membership of learned societies

- (a) Life Member, Indian Mathematical Society (IMS)
- (b) Life Member, Indian Science Congress Association, (ISCA)
- (c) Life Member, Indian Academy of Mathematics, (IAM)
- (d) Member, American Mathematical Society (AMS)

7. Experience as a Reviewer and Referee

- (a) Since October 2008, Reviewer for Mathematical Reviews, USA (AMS)
- (b) Since August 2010, Reviewer for Zentralblatt MATH, Berlin
- (c) Acting as a referee for some of the reputed Indian and foreign journals

8. Award of Fellowships and Gold Medals

- (a) Awarded University Gold Medal for being topper in M.Sc. Mathematics (2001)
- (b) Awarded Junior Research Fellowship of Council of Scientific and Industrial Research for two years during Jan. 2003 to Dec. 2004

(c) Awarded Senior Research Fellowship of Council of Scientific and Industrial Research from Jan. 2005 to March 2006

9. Publications

- (a) Total number of research papers published/accepted : **34**
(b) Total number of books published : **02**

10. List of Books

1. **BASIC MATHEMATICS** (with Mr. Vimal Kr. Sarshwat) published by **Himanshu Publication**, Udaipur-Delhi.
2. **ENGINEERING MATHEMATICS-III (CS/IT)** (with Prof. Babu Ram) published by **Pearson Education**, India.

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List of Publications

1. **S.D. Purohit** and R.K. Raina: Certain subclasses of analytic functions associated with fractional q-calculus operators, *Math. Scan.* (Accepted).
2. R.K. Yadav, **S.D. Purohit** and V.K. Vyas: On applications of q-Laplace transforms to a basic analogue of the I-function. *Rev. Bull. Calcutta Math. Soc.* (Accepted).
3. R.K. Yadav, **S.D. Purohit** and Poonam Nirwan: On q-Laplace transforms of a general class of polynomials and q-hypergeometric functions, *Math. Maced.* (Accepted).
4. **S.D. Purohit** and S.L. Kalla: On fractional partial differential equations related to quantum mechanics, *J. Phys. A: Math. Theor.* **44(4)** (2011) **045202** (8 pp).
5. **S.D. Purohit**: On a q-Extension of the Leibniz rule via Weyl type of q-derivative operator, *Kyungpook Math. J.* **50 (4)** (2010), 473-482.
6. **S.D. Purohit**, S.L. Kalla and D.L. Suthar: Some results on fractional calculus operators associated with the M-function, *Hadronic J.* **33** (2010), 225-236.
7. R.K. Yadav, S.L. Kalla, **S.D. Purohit** and V.K. Vyas: Certain fractional q-integral formulas for the generalized basic hypergeometric functions of two variables, *Journal of Inequalities Special Functions*, **1 (1)** (2010), 30-38.

8. **S.D. Purohit** and R.K. Yadav: A note on certain classes of multivariable q-series transformations, *Le Matematiche* **65** (1) (2010), 101-108.
9. **S.D. Purohit** and R. K. Raina: Generalized q-Taylor's series and applications, *Gen. Math.* **18**(3) (2010), 19-28.
10. **S.D. Purohit** and R.K. Yadav: On generalized fractional q-integral operators involving the q-Gauss hypergeometric function, *Bull. Math. Anal. Appl.* **2**(4) (2010), 33-42.
11. R.K. Yadav, **S.D. Purohit** and V.K. Vyas: On transformations involving generalized basic hypergeometric functions of two variables, *Rev. Téc. Ing. Univ. Zulia.* **33**(2) (2010), 176-182.
12. R.K. Yadav, **S.D. Purohit** and V.K. Vyas: On applications of q-fractional calculus operators and transformations involving generalized basic hypergeometric functions, *Bull. Pure Appl. Math.* **4**(1) (2010), 125-132.
13. R.K. Yadav, **S.D. Purohit** and V.K. Vyas: On fractional q-calculus operators involving the generalized basic hypergeometric function of two variables, *J. Rajasthan Acad. Phy. Sci.* **9**(2) (2010), 103-112.
14. **S.D. Purohit**: Summation formulae for basic hypergeometric functions via q-fractional calculus. *Le Matematiche*, **64** (1) (2009), 67-75.
15. **S.D. Purohit** and R.K. Raina: On certain operational formulae for multivariable basic hypergeometric functions, *Acta Math. Univ. Comen., New Ser.* **79**(2) (2009), 187-195.
16. **S.D. Purohit**: Some recurrence relations for the generalized basic hypergeometric functions, *Bull. Math. Anal. Appl.* **1**(1) (2009), 22-29.
17. **S.D. Purohit** and S.L. Kalla: On the fractional q-calculus of a general class of q-polynomials, *Algebras Groups and Geom.* **26** (1) (2009), 1-13.
18. **S.D. Purohit**, R.K. Yadav, Gurpreet Kaur and S.L. Kalla: Applications of q-Leibniz rule to transformations involving generalized basic hypergeometric functions, *Algebras Groups and Geom.* **25** (4) (2008), 463-482.
19. **S.D. Purohit**, R.K. Yadav and S.L. Kalla: Certain expansion formulae involving a basic analogue of Fox's H-function, *Appl. Appl. Math.* **3**(1) (2008), 128-136.
20. R.K. Yadav, **S.D. Purohit** and S.L. Kalla: On generalized Weyl fractional q-integral operator involving generalized basic hypergeometric functions, *Fract. Calc. & Appl. Anal.* **11**(2) (2008), 129-142.

21. **S.D. Purohit** and S.L. Kalla: Certain expansions involving generalized basic hypergeometric functions, *Mat. Bilt.* **31(LVII)** (2007), 21-32.
22. **S.D. Purohit** and R.K. Yadav: Multidimensional fractional q-derivatives of basic multiple hypergeometric functions, *Bull. Pure Appl. Math.* **1(2)** (2007), 166-175.
23. **S.D. Purohit** and S.L. Kalla: On q-Laplace transforms of the q-Bessel functions, *Fract. Calc. Appl. Anal.* **10(2)** (2007), 189-196.
24. R.K. Yadav, **S.D. Purohit** and S.L. Kalla: Kober fractional q-integral of multiple basic hypergeometric functions, *Algebras Groups and Geom.* **24 (1)** (2007), 55-74.
25. R.K. Yadav and **S.D. Purohit**: On applications of Weyl fractional q-integral operator to generalized basic hypergeometric functions. *Kyungpook Math. J.* **46(2)** (2006), 235-245.
26. R.K. Yadav and **S.D. Purohit**: On q-Laplace transforms of certain q-hypergeometric polynomials. *Proc. Nat. Acad. Sci., India* **76(A) III** (2006), 235-242.
27. R.K. Yadav and **S.D. Purohit**: On fractional q-derivatives and transformations of the generalized basic hypergeometric functions. *J. Indian Acad. Math.* **28(2)** (2006), 321-326.
28. R.K. Yadav and **S.D. Purohit**: On applications of Kober fractional q-integral operator to certain basic hypergeometric functions. *J. Rajasthan Acad. Phy. Sci.* **5(4)** (2006), 437-448.
29. R.K. Saxena, R.K. Yadav, **S.D. Purohit** and S.L. Kalla: Kober fractional q-integral operator of the basic analogue of the H-function, *Rev. Téc. Ing. Univ. Zulia.* **28(2)** (2005), 154-158.
30. R.K. Yadav and **S.D. Purohit**: On q-Laplace transforms of certain multiple basic hypergeometric functions. *The Math. Student* **74 (1-4)** (2005), 207-215.
31. S.L. Kalla, R.K. Yadav and **S.D. Purohit**: On the Riemann-Liouville fractional q-integral operator involving a basic analogue of Fox H-function. *Fract. Calc. & Appl. Anal.* **8(3)** (2005), 313-322.
32. R.K. Yadav and **S.D. Purohit**: Fractional q-derivatives and certain basic hypergeometric transformations, *S.E.A.J. Math. And Math. Sc.* **2(2)** (2004), 37-46.
33. R.K. Yadav and **S.D. Purohit**: Applications of Riemann-Liouville fractional q-integral operator to basic hypergeometric functions, *Acta Ciencia Indica* **30(3)** (2004), 593-600.
34. R.K. Yadav and S.D. Purohit: On q-Laplace transforms of certain generalized basic hypergeometric functions, Proc. 5th Int. Conf. SSFA, 5 (2004), 74-81.