

Name : Dr. S. U. Siddiqui
Address : Professor & Head,
Department of Mathematics,
H.B.T.U, Kanpur.



Educational Qualifications:

Ph.D. Mathematics	1994	H. B. T. I., Kanpur
M.Sc. Mathematics	1981 (Topper of University)	Kanpur University
B.Sc. Mathematics	1979	Kanpur University

Teaching Experience:26 years

Research Experience:33 years

Area of Research :Biomechanics

Paper Published : International journals: 38(Annexure (i))

Ph.D. Supervised : 06(03 Completed, 01 submitted,01 Permission granted For the submission of the thesis by RDC,01 In progress)

Project Completed : 01[Mathematical modeling of blood flow under normal and stenotic condition,UGC, New Delhi, 3years.]

Member of BOS : Aligarh Muslim University Aligarh, UPTU Lucknow, HBTI, Kanpur.

Review Work : Worked as Ph.D. thesis examiner in Bundelkhand University Jhansi, Dr. B.R.A., University Agra, Allahabad University.

Book Published : 01

Participation in Conferences/Workshops/Seminar : 15(Annexure (ii))

Conferences/Workshops/Seminar Organized : 03(Annexure (iii))

Administrative assignment:

- 1) Two years as **Officer on Special Duty** in Academic Section at H.B.T.I. Kanpur.
- 2) **Warden** for Five Years at H.B.T.I. Kanpur.
- 3) **Assistant Dean of Student Welfare** for Four years.
- 4) **Convener of Cultural Council** of Students Activity for Four years.
- 5) **Proctor** on Proctorial Board of the Institute for Four years.
- 6) **Officer Incharge** of Institute Guest House.

- 7) **Assistant Dean** of Academic Affairs.
- 8) **Officer Incharge of Medical**, HBTI, Kanpur.
- 9) **Officer Incharge** of Hygiene, HBTI, Kanpur.
- 10) **Member** of Department purchase committee.
- 11) Services provided as an **Nodal officer (confidential)**, Scanning Committee entrance examination in UPTU/UPSEE for various years as observer, confidential.
- 12) Worked as **observer** for online counseling of SEE for several years.
- 13) Worked as **member of Result verification committee** in UPTU entrance examination.
- 14) Worked as **group leader** of flying Squad in UPTU examination.
- 15) **Member of Selection Committee's** for IV Class Employees in H.B.T.I. Kanpur.
- 16) **Member of Store Verification** committee.
- 17) **Member for the Selection** of Guest Lecturer in the Deptt.
- 18) **Member of D.P.C.** (Hostel) & various department.
- 19) **Chairman** of Non-Teaching's Election.
- 20) **Member of Institute Representative** in C.E.E./U.P. Seat Counseling.
- 21) **Member of Selection Committee's** for Reader and Lecturer in Different Universities.
- 22) **Member of different** enquiry committee.
- 23) **Member of Anti-ragging** Committee.
- 24) **Member of Minority** scholarship.
- 25) **Head**, Department of Mathematics, H.B.T.I. Kanpur more than three years.
- 26) **Chairman C.S.A**, H.B.T.I.
- 27) **Session Chair** in international conference on "Mathematical methods and high performance Computing in Sci. & Tech" at Raj Kumar Goel Inst. of Tech.(M3HPCST).
- 28) **Presently Head of the Department of Mathematics**, H.B.T.I. Kanpur

Professional membership

1. Life member of HBTI, Alumni Association.
2. Member of Indian Society for Technical Education(ISTE), IIT, Campus New Delhi.

Detail of Ph.D. program

Sapna Ratan Shah	Dr. S.U Siddiqui	Mathematical modeling of the transport phenomena with reference to Bio-mechanics	GBTU, Lucknow	Completed
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Shailesh Mishra	Dr. S.U Siddiqui	Mathematical analysis of diffusion in blood flow through blood vessels	GBTU, Lucknow	Completed
Narendra Kumar Verma	Dr. S.U Siddiqui	Mathematical modeling of pulsatile blood flow in stenosed blood vessels	GBTU, Lucknow	Completed
Geeta	Dr. S.U Siddiqui	Mathematical modeling of transport phenomena in circulatory system	AKTU, Lucknow	Submitted
Chhama Awasthi	Dr. S.U Siddiqui	Mathematical modelling of blood flow problems in stenosed blood vessels.	AKTU, Lucknow	In Progress
Anuradha Singh	Dr. Sapna Ratan Shah	Mathematical Modeling in biomechanical aspect of circulatory system	AKTU, Lucknow	Thesis to be submitted

Annexure (i) : Publications in Journals

- 1) P.N. Tandon, T.S. Pal & S.U. Siddiqui, “Micro Structural and Peripherals Layer Viscosity Effect on Blood Flow Through a Tube with Small Constriction”. J. of Institutions of Engineers (India) Vol. 65, 2 Feb., 1985.
- 2) P.N. Tandon, T.S. Pal & S.U. Siddiqui, “Pulsatile Blood Flow Through an Axis and Axisymmetric Time Dependent Developing Stenotic Tube”, Indian J. of Technology Vol. 24, 1986, India.
- 3) M. Saleem, S.U. Siddiqui and V. Gupta, “A Mathematical Model with Young Predation”, J. of Mathematical Biology, Vol. 25, 89-101, 1987.
- 4) S.U. Siddiqui, A.P. Dwivedi, T.S. Pal and Prawal Sinha “A Numerical Study of Transport of O₂ and CO₂ in a Red Blood Cell”, Published in Book entitled (Mathematical Analysis and Applications) published by Narosa Publication, India.
- 5) S.U. Siddiqui, A.P. Dwivedi, T.S. Pal, “A Theoretical Model for the Heat Transfer Between Core & Skin”, Proceedings of 9th International Symposium on Transport Phenomena ISTP-9 in Thermal –Fluid Engineering, June 25-28, 1996 at Singapore.
- 6) S.U. Siddiqui, A.P. Dwivedi, T.S. Pal, “A Theoretical Model for Diffusion through Stenosis”, Proceeding of IV ICPFD, Biomedical Engg. Division, IIT Madras.

- 7) P.N. Tandon, Rekha Bali, S.U. Siddiqui and A.K. Shukla”, A study of Nutritional Transport in Pulsatile Blood Flows”, Int. J. of Physical sciences (Ultra Science), 2004, India.
- 8) A.P. Dwivedi, S.U. Siddiqui, Jyotsana Chandel and Poonam Bajpai, “Six Series Equations Involving Jacobi Polynomials of Different Indices, Acta, Ciercia Indica, Vol. XXXM, No. 2, 243, 2004, India.
- 9) A.P. Dwivedi, S.U. Siddiqui, Jyotsana Chandel and Sudhir Singh “System of n-series equations Involving Jacobi Polynomials, Ganita, Vol. 55 (i), 33-40, 2004, India.
- 10) S.U. Siddiqui and Sapna, “Study of blood flow through stenosed capillary using Casson’s fluid model, Int. J. of Physical Sciences (Ultra Science) Vol. 16 (2M), p. 133-142, 2004, India.
- 11) S.U. Siddiqui and Sapna, “Herschel-Bulkley Fluid model for blood Flow through a stenosed Artery” Int. J. of Physical Sciences (Ultra Science) Vol. 18 (3), 407-416, 2006, India.
- 12) S.U. Siddiqui and Sapna, “Effect of shape of Steosis on Resistance to flow through an Artery”, Reflections des ERA, Vol. 1 (3), 257-272, 2006, India.
- 13) S.U. Siddiqui and Shailesh Mishra”, A study of Modified Casson’s fluid in modeled ormal & stenotic capillary-tissue diffusion phenomenon”, Appl. Math & Comput., Vol. 189, 1048-1057, 2007, Nietherlands.
- 14) S.U. Siddiqui, N.K. Verma, Shailesh Mishra and R.S. Gupta,” Mathematical Modelling of Pulsatile flow of Casson’s fluid in arterial stenosis’, Applied Mathematics and Computation, Vol. 210. (2009), 1-10, Nietherlands.
- 15) S.U. Siddiqui, N.K. Verma, Shailesh Mishra and R.S. Gupta, “Mathematical Modelling of Pulsatile Flow of Blood through a Time Dependent Stenosis Blood Vessel”, Int. J. of Physical Sciences (Ultra Science). Vol. 21 (1) M, 241-248, 2009, India.
- 16) S.U. Siddiqui, R.S. Gupta, N.K. Verma, A Mathematical model for Pulsatile flow of Hersehel Bulkely fluid through stenosed arteries, “Journal of Science & Technology”, Vol. 5 (4), 2010, Greece.
- 17) Siddiqui, S. U., Mishra, S. and Verma, N. K., 2011. Mathematical modeling of diffusion phenomena in a moderately constricted geometry, Applied Mathematics (USA), Vol. 2, Issue 2, pp. 241-246.

- 18) Siddiqui, S. U., Mishra, S., 2011. A mathematical model for flow and diffusion through stenotic capillary tissue exchange system. *e-Journal of Science and Technology (Greece)*, Vol. 6, pp. 1-17.
- 19) Siddiqui, S. U., Mishra, S. and Medhavi, A., 2011. Blood flow through a composite stenosis in an artery with permeable wall. *Application and Applied Mathematics (USA)* Vol. 6, pp. 1798-1813.
- 20) Siddiqui, S. U., Mishra, S. and Medhavi, A., 2011. Particulate suspension blood flow through an overlapping stenosis in an artery with permeable wall. *Applied Mathematics and computation (Netherlands)*, Submitted.
- 21) Siddiqui, S. U., Verma, N. K., Mishra, S. and Gupta, R. S., 2011. Effect of slip velocity on blood flow through a catheterized artery. *Applied Mathematics (USA)*, Vol. 2, pp. 764-770.
- 22) Siddiqui, S. U., Verma, N. K., Mishra, S. and Gupta, R. S., 2011. Study of blood flow through a catheterized artery. *Advances in Applied Science and research (USA)*, Vol. 2, Issue 6, pp. 114-122.
- 23) Siddiqui, S. U., Verma, N. K. and Gupta, R. S., 2011. Pulsatile flow of blood in mild stenosis: Effect of body acceleration. *e-Journal of Science and Technology (Greece)*, Vol. 6, Issue 3, pp. 61-76.
- 24) Siddiqui, S. U. and Shah Ratan S. 2011. A comparative study for the non Newtonian behavior of blood flow through atherosclerotic arterial segment. *Int. J. Pharmaceutical Sciences review and research*, Vol. 9, Issue 2, pp. 120-125
- 25) Siddiqui, S. U. and Shah Ratan S, 2011. Two phase model for the study of blood flow through stenosed artery. *Int. J. Pharm. Bio. Sci.*, Vol.1, Issue 3, pp. 246-254.
- 26) Siddiqui S.U., **Mishra Shailesh** and Verma N.K., 2012. A suspension model for blood flow through a catheterized artery. *International Journal of Biomathematics*, Vol. 5, Issue 5, pp. 1-15.
- 27) Siddiqui S.U., **Mishra Shailesh** and Verma N.K., 2013. Particulate suspension blood flow through an overlapping stenosis in an artery with permeable wall. *Applied Mathematics and Computation*, Vol. 227, pp. 27-39.
- 28) Siddiqui S.U., **Mishra Shailesh** and Verma N.K., 2013. Effect of permeability on blood flow through a stenosed artery. *Applied Mathematics* Vol. 4, pp. 310-321.

- 29) Siddiqui S.U., **Mishra Shailesh** and Verma N.K., 2013. A suspension model for flow of blood through stenosed blood vessel. *Applications and Applied Mathematics*, Vol. 6, Issue 5, pp. 221-234.
- 30) Siddiqui, S. U., Geeta, Sapna, 2013, "Mathematical modeling of blood flow through catheterized artery under the influence of body acceleration with slip velocity, *Application and Applied Mathematics: An International Journal*, Vol. 8, Issue 2, pp. 481-494.
- 31) Siddiqui, S. U., Geeta, Shah Ratan .S, 2014, "Effect of body acceleration and slip velocity on the pulsatile flow of cassin fluid through stenosed artery", *Int. J. of Advances in applied science and research*, Vol. 5(3), pp. 213-225.
- 32) Siddiqui S. U. ,Geeta, and Sapna Ratan Shah, "A Biomechanical approach to hthe effect of body acceleration through stenotic artery", *Applied Mathematics and Computation*, (2015),Vol. 261, pp. 148-155.
- 33) Siddiqui S. U. ,Geeta, and Sapna Ratan Shah, "A Mathematical model of two layered pulsatile blood flow through stenosed arteries", *e-journal of science and technology*, (2015), Vol. 109(1), pp. 27-41
- 34) Siddiqui S. U.,Geeta, and Sapna Ratan Shah, " A Computational analysis of two fluid model of pulsatile blood flow through constricted artery."
- 35) S.U. Siddiqui, Sapna Ratan Shah, , Anuradha Singh, *Mathematical Modelling and Analysis of Blood Flow through Diseased Blood Vessels*, *International Journal of Engineering and Management Research*, Vol. 5; Issue 6, 2015, pp. 366-372.
- 36) S.U. Siddiqui, Sapna Ratan Shah, Anuradha Singh, *Effects of inclined multi-stenoses arteries on blood flow characteristics using bingham plastic fluid*, *International Journal for Mathematics*, Vol.1; Issue 12, 2015, pp. 7-14.
- 37) S.U. Siddiqui,Sapna Ratan Shah, Anuradha Singh, *Performance of blood flow through two phase stenosed artery using Herschel-Bulkely model* *International Journal of Applied And Pure Science and Agriculture*, Vol. 2; Issue 2, 2016, pp. 228-240.
- 38) S.U. Siddiqui,Sapna Ratan Shah, Anuradha Singh, *Mathematical Modeling and Numerical Simulation of Blood Flow through Tapered Artery*, *International Journal of Innovative Science, Engineering & Technology*, Vol. 3, Issue 2, 2016, pp. 710-717.

Annexure (ii) :Participation in Conference / Seminar / Workshop / Symposia

- 1) A National Symposium on "Recent Trends in Mathematics and Application" held on Sep. 7, 1993.

- 2) 7th Annual Conference of VPI (1997) on
 - (a) Mathematical Analysis and application
 - (b) Use of Mathematics and Computers on Sci. & Tech.
- 3) Series of Lectures on Occasion of 78th Birthday of Late. Prof. Harishchandra on Oct. 11, 1997.
- 4) Two Weeks Short Term Course on “Reliability and Safety in Process Industries” during Sep. 22-Oct. 10, 1998 Sponsored by AICTE-ISTE.
- 5) A Short Term course on “Probability, Random Process and Elements of Information Theory” during June 14-June 26, 1999 at IIT,Kanpur.
- 6) Series of Lectures on the Occasion of Mathematics Year during Dec. 30, 2002.
- 7) Delivered a Lecture in the Workshop on “Role of Mathematics in Science and Technology” during Oct. 24, 2007 at H.B.T.I. Kanpur.
- 8) A national conference on Modelling and simulation of chemical process during Feb 24, 2009- Feb 28, 2009 at HBTI, Kanpur.
- 9) A lecture on Data Analysis using SPSS on Dec. 11, 2010, in STEP HBTI, Kanpur.
- 10) A week-ends lecture series on Modelling and computing during Feb 18, 2012-March 18, 2012. Held at HBTI, Kanpur.
- 11) Sir S. Ramanujan memorial workshop sponsored by CSIR, during Dec 18, 2012 to Dec. 22, 2012 held at DAV college Kanpur.
- 12) A lecture on Industry Academia Interaction for Strengthening technical education. held on Aug 30, 2013 at HBTI, Kanpur.
- 13) National Level Seminar on "Issue and Challenges of Computer Science & Engineering as a Discipline" HBTI, Kanpur, March 9, 2013
- 14) FDP on "Essentials of teaching learning process" HBTI, Kanpur, March 23, 2013
- 15) One week FDP on "Modeling, Simulation and Analysis of Engineering Science "

Annexure (iii) :Conferences/Workshop Organized

- 1) As Deputy Co-ordinate I organized Workshop entitled “Application of Mathematics in Engineering & Technology”, during Sep. 08, 2007 under Networking cell, Technical Education Quality Improvement Programme (TEQIP) World Bank Project at H.B.T.I. Kanpur.
- 2) As Deputy Co-ordinate I organized Workshop entitled “Role of Mathematics in Science & Technology”, during Oct. 24, 2007 at H.B.T.I. Kanpur.
- 3) A Lecture Series on Mathematical Modeling and Simulation, during Feb. 20-Mar. 31, 2010, at Harcourt Butler Technological Institute, Kanpur.

Date:

(Dr. S. U. Siddiqui)

**Professor & Head,
Deptt. of Mathematics,
H.B.T.U., Kanpur.
(Supervisor)**