

Dr. Swati Mishra

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OBJECTIVE

To join an organization this imparts amicable and enthusiastic environment to excel my field of interest and where the key of shared success is the development and growth of business goals as well as personal goals.

WORK EXPERIENCE

Guest Faculty

July, 2019 to Present

HBTU, Kanpur 208002

Kanpur, Uttar Pradesh 208002, India.

Guest Faculty

Sept, 2018 to June 2019

AITH, Kanpur 208024

Kanpur, Uttar Pradesh 208024, India.

Associate Professor

Jan, 2018 to June 2018

Axis College Kanpur 209402

Kanpur, Uttar Pradesh 209402, India.

Guest Faculty

July, 2015 to Dec, 2017

REC Kannauj 209732

Kannauj, Uttar Pradesh 209732, India.

Guest Faculty

July 2013 to June 2015

Dr. BRAECIT Bijnor 246725

Bijnore, Uttar Pradesh 246725, India.

ACHIVMENTS

Senior Research Fellow

May, 2010 to April, 2013

CSIR, New Delhi, 110001.

Project Fellow

Aug 2009, to May, 2010

UGC, New Delhi, 110002.

EDUCATION

Doctor of Philosophy (2013)

Mathematical Modeling, Biomathematics.

Dr. A.P.J. Abdul Kalam Technical University, Lucknow, Uttar Pradesh 226031. India.

(Work Place-Harcourt Butler Technical University, Kanpur, Uttar Pradesh 208002, India)

TOPIC: Some flow and diffusion problems in microcirculation with application to
Physiological systems.

Master of Science (2004)

Mathematics

Aggregate: 63.4%

Kanpur University, Kanpur, India.

Bachelor of Science (2002)

Physics, Mathematics

Aggregate: 62.2%

Kanpur University, Kanpur, India.

Intermediate (UP Board) (1999)

English, Hindi, Physics, Chemistry, Mathematics,

Aggregate: 50%

High school (UP Board) (1997)

English, Hindi, Bio, Mathematics, Science,

Aggregate: 61.1%

Soc. Science,

PAPERS PUBLISHED

- Rekha Bali, **Swati Mishra**, Shradhdya Dubey (2008) "A mathematical model for red blood cell motion in narrow capillary surrounded by tissue". Applied Mathematics and computations, 196, (2008), 193-199.
- Rekha Bali, **Swati Mishra**, P. N. Tandon (2009) "Effect of glycocalyx on red blood cell motion in capillary surrounded by tissue". Application and Applied Mathematics, 4-1, 134-148,

- Rekha Bali, **Swati Mishra**, Mamta Mishra (2011) “Effect of Deformation of red cell on Nutritional transport in capillary tissue exchange system”. Applied Mathematics, 2, 1417-1423.
- Rekha Bali, **Swati Mishra**, P. N. Tandon (2012) “A Simple model for squeezing flow of red blood cell in narrow capillary” Advances in Applied Science, 3(3),1353-1360.
- Rekha Bali, **Swati Mishra** P. N. Tandon (2015) “A study of fluid filtration in capillary tissue fluid exchange system” International Journal of Latest Technology in Engineering, Management & Applied Science , 4, 135-141.
- Rekha Bali, **Swati Mishra** P. N. Tandon (2016) “Three layer model for blood flow in small blood vessels” e-Journal of Science and Technology, 10, 121-130.
- Rekha Bali, **Swati Mishra** P. N. Tandon (2016) “Study of Anomalous behavior of blood flow in capillary surrounded by tissue”.International Journal of Mathematics and its applications, 4, 1-B, 121-131.
- Rekha Bali, Nivedita Gupta **Swati Mishra** (2016) “Study of Transport of Nanoparticles with Power Law fluid model for blood rheology in capillaries” Journal of Progressive Research in Mathematics, 7 (3), 1053-1062.
- Rekha Bali, Nivedita Gupta **Swati Mishra** (2016) “Dispersion characteristics of non-Newtonian fluid during transportation of nanoparticles in permeable capillary” Application and Applied Mathematics 11 (2), 632-645.
- Rekha Bali, **Swati Mishra** Nivedita Gupta (2017) “Numerical Analysis of Ellis fluid model in arteries” International Journal of Mathematical Archieve 8(6), 1-9.
- Rekha Bali, Bhawini Prasad, **Swati Mishra** (2021) “A Review On Mathematical Models For Nanoparticle Delivery In The Blood” International Journal Of Advanced Research, 10(04), 130-146 ISSN:2320-5407DOI:10.21474/IJAR01/1456.
- Rekha Bali, Bhawini Prasad, **Swati Mishra** (2022) “On The Thermodynamic Properties And Flow Of Different Shapes Of Nanoparticles In A Catheterized Composite Artery” International Journal Of Trend In Scientific Research And Development. Volume 6, Issue 4, pp-653-664.
- Rekha Bali, **Swati Mishra**, Nivedita Gupta, Bhawini Prasad (2022) “Mathematical Model Of Concentration Dependent Viscosity For The Effect Of RBC On The Transport Of Nanoparticles”
- Rekha Bali, Bhawini Prasad, **Swati Mishra** (2022) “Study Of Effect Of Different Shapes Of Nanoparticles In Three-Layer Model For Blood Flow In Arterioles” Contemporary Mathematics. Volume 3, Issue 3, pp- 270- 287 DOI:10.37256/cm.3320221537.
- Rekha Bali, Ragini Tripathi, **Swati Mishra** (2024) “Mathematical modeling of tissue porosity effect and non-Newtonian behavior of blood on anomalous effect on blood flow in micro blood vessels” Physics of Fluids, Vol. 36 Issue 11, pp-1-11, DOI: 10.1063/5.0228337.

CONFERENCE PROCEEDINGS

- Rekha Bali, Ragini Tripathi, **Swati Mishra** (2024) “A Numerical study of a three layered model for the flow of Jeffrey fluid in small blood vessels” Advances in Mathematical Modelling, Applied analysis and computations, PROCEEDINGS OF ICMMAAC 2023 Vol 2 , pp-196-212, DOI: 10.1007/978-3-031-56304-1_12.
- Rekha Bali, Ragini Tripathi, **Swati Mishra** (2025) “Mathematical study of Blood flow in small vessels: Considering Red Blood Cell Deformation” Mathematical Modeling, Computational Intelligence Techniques and Renewable (MMCITRE 2024), Vol 1192. Springer, DOI:10.1007/978-981-96-1449-3_29.

NATIONAL & INTERNATIONAL CONFERENCES/SEMINAR/WEBINAR/WORKSHOP

- **Attended** the conference "BHARAT GANTA PARISHAD" at Deptt. of Mathematics and astronomy. Lucknow University, Lucknow, held on Nov 13-14-2005.
- **Attended** National Symposium on scientific computing with application to Partial Differential Equations at IIT Kanpur held on Nov 19-21,2005.
- **Presented** a paper entitled “ A Mathematical model for red cell motion in narrow capillary surrounded by tissue.” in the conference BHARAT GANITA PARISHAD” at Deptt. of Mathematics and Astronomy. Lucknow University, Lucknow ,held on Nov 18-19, 2006.
- **Attended** “International conference on Mathematical Modeling and Computer simulation” held Dec 12-15,2006.
- **Attended** a refresher course on “Applied Mathematical Techniques for chemical sciences” held at HBTI Kanpur on April 11-15, 2007.
- **Attended** the Sensitization workshop on DST’s Women Scientist scheme (WOS-A) Organized by “Sugarcane Research Station” Kunraghat, Gorakhpur held on date 20-21 June 2007.
- **Attended** The workshop on "Role of Mathematics in Science and Technology" Held on Oct. 24,2007 in Department of Mathematics HBTI Kanpur.
- **Attended** "National Meet of Research scholar in mathematical sciences" held at I I T Kanpur, Oct. 30-Nov.3, 2007.
- **Presented** a paper entitled “Effect of Glycocalyx on red blood cell motion in very narrow capillary surrounded by tissue” in National Meet of Research scholar in mathematical sciences” held at I I T Kanpur, Dec 6-10,2008.

- **Presented** a paper entitled “ Study of nutritional transport in microcirculation” in National level seminar on Mathematics & its Applications in Industries” organized by DBS(PG) college Kanpur, Jan 31st &Feb 01st , 2009.
- **Attended** a workshop on "Modeling and simulation of chemical process" organized by the Department of Chemical Engineering, HBTI Kanpur during Feb 24-28, 2009.
- **Attended** one week Faculty Development Programme on Advances in Engineering Materials held on March 16-21, 2009 organized by Department of Mechanical Engineering, HBTI Kanpur.
- **Attended** Lecture of Prof P.N. Tandon on “A Tribological study of Microcirculation” on Feb 16, 2010 organized by Department of Mathematics HBTI, Kanpur.
- Presented a paper entitled “Three layer model for blood flow in small vessels” in 11th International conference of the International Academy of physical Sciences, Feb 20-22, 2010 at University of Allahabad.
- **Attended** the Lecture series on “Mathematical Modeling and System Simulation” exclusively on Saturdays and/or Sundays (Feb 20- March 31, 2010) organized by Mathematics Department HBTI Kanpur
- **Presented** a paper entitled “An analysis of red cell motion in very narrow capillary” in National seminar of Recent advances in Mathematics and its Applications (Sponsored by UGC) organized by Department of Mathematics BND college, Kanpur 12/02/2011.
- **Attended** National level workshop on "Engineering trends in Interdisciplinary Mathematical Science" sponsored by CSIR, New Delhi, at DAV college Kanpur on Oct. 15-16, 2011.
- **Presented** a paper entitled “Study of nutritional transport in capillary tissue exchange system” in National Conference on Biomechanics” held on 7-8, 2010 March organized by Department of Mathematics IIT Roorkee.
- **Attended** 30 hours Prof. P.N.Tandon Memorial weekends Lecture series on “Modeling and Computing” during Feb. 18 to March 18, 2012 organized by the department of Mathematics HBTI Kanpur.
- **Attended** a Short Term Course on “Numerical Methods In Science And Engineering” organized by Deptt. of Mathematics, Motilal Nehru National Institute Of Technology , Allahabad held on Aug 25-26, 2012.
- **Attended** All India Seminar on "Recent Techniques & Future of Information Technology" held at Department of Computer Science & Engineering, HBTI Kanpur during Sep 22-23, 2012
- **Attended** National Conference on "Role of Mathematics in Advancement of Science & Technology" NCRMAS-2013 organized by Department of Mathematics , B.S.N.V. (P.G.) College, Lucknow, during Oct 18-20, 2013.

- **Attended** a “Sir S. Ramanujan Memorial Workshop/Lecture Series” in National Mathematical Year 2012 sponsored by C.S.I.R., on Dec. 18-22, 2012, by Deptt. of Mathematics, D.A.V.College, Kanpur.
- **Attended** one week Faculty Development Programme on Modeling, Simulation and Analysis of Engineering System, organized by Department of computer science & Engineering, HBTI Kanpur. during Oct 25-30,2013.
- **Attended** a National workshop on "Research Methodology and Mathematical Modelling " held on RKGEC Ghaziabad on July 24, 2014.
- **Attended** TEQIP Sponsored two days workshop on Matlab Programming and its Applications" held on HBTI, Kanpur on Feb 25-26, 2015.
- **Attended** International conference on Modern Mathematical methods and High performance Computing in Science & Technology organized by RKGIT Ghaziabad. from Dec. 27-29, 2015
- **Attended** one week FDP on Advance Algorithms in Computing" organized by the Department of Computer Science & Engg. HBTI, Kanpur from Jan 25-30, 2016.
- **Presented** a Paper entitled “Numerical analysis of Ellis fluid model in arteries” in National Conference on current advances in Science & Technology (CAST 2016) organized by Rama University. On March 2017.
- **Participated** Swayam Course on Digital transformation in Teaching Learning Process organized by NPIU from March, 16th to 30th , 2020.
- **Participated** 5th International conference on Mathematical Modeling, Applied Analysis and Computation 2022 organized by Department of Mathematics, JECRC , University Jaipur during August 4-6, 2022.
- **Presented** a paper entitled “Role of concentration dependent viscosity and magnetic field on blood flow characteristic” in 6th International conference on Mathematical Modeling, Applied Analysis and Computation 2023 organized by Department of Mathematics, JECRC , University Jaipur during August 3-5, 2023.

ORGANIZE WEBINAR / TRAINING PROGRAMME / WORKSHOP

- Organize “One Week Short Term Training Program on “Data Analysis and SPSS Software” in the department of mathematics, HBTU Kanpur from October 21-25, 2019.
- Organize Webinar on “Modeling & Simulation” in the department of Mathematics, HBTU Kanpur on December 22, 2020.
- Organize Webinar on “Applications of Mathematical Modeling in Sciences, Engineering and Technology” in the department of mathematics, HBTU Kanpur on October 9, 2021.

- Organize workshop on “Python Programming for Data Sciences” in the department of mathematics, HBTU Kanpur from October 20-22, 2021.
 - Organize Short term training programme on “Data Analysis with Python Libraries” in the department of mathematics, HBTU Kanpur from October 25-26, 2021.
 - Organize Short term training programme on “R programming for Statistical Analysis” in the department of mathematics, HBTU Kanpur from November 08-11, 2021.
 - Organize webinar on “Gender Sensitization& prevention of sexual harassment at workplace” in the department of mathematics, HBTU Kanpur on November 12, 2021.
 - Organize webinar on “Data driven infectious disease modeling for public health” in the department of mathematics, HBTU Kanpur on November 16, 2021.
 - Organize webinar on “On Theoretical study of diabetic Retinopathy and complications” in the department of mathematics, HBTU Kanpur on November 20, 2021.
 - Organize webinar on “The contribution of Srinivasan Ramanujan to mathematics” in the department of mathematics, HBTU Kanpur on December 22, 2021
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Dated :

Place : Kanpur

(Swati Mishra)
