

**Dr. Shashi Sharma**  
Assistant Professor  
Department of Mathematics  
J.C. Bose University of Science & Technology Faridabad  
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### **Research Interests:**

1. Mathematical Modeling for Biological systems
2. Computational Fluid dynamics
3. Biomechanics
4. In-vitro study for magnetic drug targeting, Nanotechnology

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### **ACADEMIC AND RESEARCH BACKGROUND**

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|-----------------------------------|--|---------|
| 1. <b>Ph.D.</b> (2011-2015)       | <b>Indian Institute of Technology (IIT), Roorkee</b>   | Awarded |
| 2. <b>M.Sc.</b> (2003-2005)       | <b>Jamia Millia Islamia (Cent. Univ.), New Delhi</b>   | 80.60%  |
| 3. <b>B.Sc.</b> (2001-2003)       | <b>Maharshi Dyanand University, Rohtak</b>             | 73.50%  |
| 4. <b>10+2</b> (1998-2000)        | <b>Central Board of Secondary Education, New Delhi</b> | 74.00%  |
| 5. <b>High School</b> (1996-1998) | <b>Haryana Board of School Education, Bhiwani</b>      | 80.00%  |

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### **AWARDS**

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1. **National Post Doctoral Fellowship Award** by Science and Engineering Research Board (SERB), **Department of Science and Technology (DST)**, Govt of India of **Rs 19.20 Lakhs**.
2. **Received Best poster award** at 2<sup>nd</sup> International Conference on Nanomaterials and Technologies (CNT) held on October 17-18, 2014 at Hyderabad.
3. Received prestigious International **Open Arms Travel Grant of BRL 8,800.00 (Brazilian Reais)** to attend **ICM 2018 at Rio de Janeiro, Brazil**.
4. **Received travel grant from SERB, Department of Science and Technology (DST)**, Govt of India to attend international conference at **Wembley, London, UK**.
5. **GATE-2011 qualified with AIR 197**.

**6. Awardee of J.R.F. and S.R.F. Fellowship of Ministry of Human Resource Development (MHRD), Govt of India.**

**TEACHING EXPERIENCE: 10 Years**

| Institute  | From       | To         | Designation  |
|--|------------|------------|--|
| J.C. Bose University of Science & Technology Faridabad                       | 24.09.2021 | Till date  | Assistant Professor  |
| National Institute of Technology Kurukshetra                                 | 05.12.2020 | 30.06.2021 | Assistant Professor  |
| National Institute of Technology Kurukshetra                                 | 30.06.2019 | 30.06.2020 | Assistant Professor  |
| National Institute of Technology Kurukshetra                                 | 08.02.2016 | 30.06.2017 | Assistant Professor  |
| National Institute of Technology Kurukshetra                                 | 27.07.2009 | 16.12.2010 | Assistant Professor  |
| Indian Institute of Technology, Roorkee, India                               | 26.12.2011 | 05.06.2015 | Taken B.Tech. I year Mathematics tutorial classes as JRF/SRF |
| Advanced Institute of Technology and Management (A.I.T.M.), Palwal-Faridabad | 01.08.2007 | 31.03.2009 | Assistant Professor  |

**REASEARCH EXPERIENCE: 5.5 Years**

| Institute                    | From              | To                | Designation                 |
|------------------------------|-------------------|-------------------|-----------------------------|
| <b>National Institute of</b> | <b>30.06.2017</b> | <b>29.06.2019</b> | <b>Post Doctoral fellow</b> |

|  |            |            |                               |
|--|------------|------------|-------------------------------|
| <b>Technology Kurukshetra</b>                  |            |            |                               |
| Indian Institute of Technology, Roorkee, India | 26.12.2011 | 05.06.2015 | Junior/Senior Research Fellow |

## **WORKSHOPS/ SHORT TERM COURSE/ CONFERENCES ATTENDED**

1. Introduction to MATLAB and MATHEMATICA during, April 21-22, 2012 at Indian Institute of Technology, Roorkee
2. Interaction of Academia-Industry on Mathematical Modeling, March 31, 2012 at Indian Institute of Technology, Roorkee
3. BIONANOTECHNOLOGY: Biological Nanostructures and its applications, March 16, 2013 at Indian Institute of Technology, Roorkee
4. Breathing Mechanics, March 31, 2013 at Indian Institute of Technology, Roorkee
5. Future trends in Chemical Engineering, August 18, 2012 at Indian Institute of Technology, Roorkee
6. National Workshop on Predictive Mathematical Models in Science and Engineering (PMMSE 2013), May 24-25, 2013 at National Institute of Technology, Kurukshetra
7. Three days STC on nanomaterials and their characterization tools, June 01-03, 2013 at NIT Kurukshetra.
8. Nanotechnology Journey from Quantum Physics to Nanoengineering, April 02, 2014 at IIT Roorkee.
9. Nanoscale Device Physics and Reliability, September 19, 2014 at IIT Roorkee
10. Workshop on “Using Web of Science for Research”, February 27, 2015 at IIT Roorkee
11. One week training programme on Professional Development of Teachers, March 15-20, 2017, NIT Kurukshetra.
12. 2<sup>nd</sup> International Conference on Nanomaterials and Technologies, October 17-18, 2014 at VCE, Hyderabad.
13. International Conference on Mathematical Sciences (ICMS 2014), July 17-19, 2014, Chennai, India
14. 17th International Conference on Applied Biomaterials and Biomechanics, September 25-26, 2015, **Wembley, London, U.K.**
15. International Conference on Advanced Materials (ICAM 2019) held at Nirmalagiri College, Kannur, Kerala during June 12-14, 2019
16. 1<sup>st</sup> National conference on Innovation in Applied Science and Engineering (NCIASE 2019) held at Dr B R Ambedkar National Institute of Technology, Jalandhar during April 27-28, 2019

## List of research Publications:

### (a) In referred Journals: 21

1. Mathematical modelling for trajectories of magnetic nanoparticles in a blood vessel under magnetic field  
**Shashi Sharma, V.K. Katiyar, Uaday Singh**  
**Journal of Magnetism and Magnetic Materials, 379 (2015) 102–107. (ISSN/ISBN: 0304-8853, IF: 3.0)**
2. Modeling and in-vitro study on capture efficiency of magnetic nanoparticles transported in an implant assisted cylindrical tube under magnetic field  
**Shashi Sharma, V.K. Katiyar, Uaday Singh**  
**Microfluidics and Nanofluidics, 19 (2015) 1061-1070. (ISSN/ISBN: 1613-4982, IF: 2.4)**
3. Magnetic field effect on flow parameters of blood along with magnetic particles in a cylindrical tube  
**Shashi Sharma, Uaday Singh, V.K. Katiyar**  
**Journal of Magnetism and Magnetic Materials, 377 (2015) 395–401. (ISSN/ISBN: 0304-8853, IF: 3.0)**
4. Peristaltic creeping flow of power law physiological fluids through a non-uniform channel with slip effect  
**M. K. Chaube, D. Tripathi, O. A. Beg, Shashi Sharma and V.S. Pandey**  
**Applied Bionics and Biomechanics (2015) Vol. 2015, Article ID 152802, Page 10. (ISSN/ISBN: 1754-2103, IF: 0.94)**
5. Rheological Effects due to Oscillating Field on time dependent boundary layer flow of magnetic nanofluid over a rotating disk  
**Vimal Joshi, Shashi Sharma and Paras Ram**  
**Proceedings of National Academy of Sciences Section A: Physical Sciences 89(2) (2019) 367-375 (ISSN/ISBN: 2250-1762, IF: 0.425)**
6. Boundary Layer Flow of Magnetic Nano-Liquids due to a Radially Rotating Stretchable Plate  
**Paras Ram, Vimal Kumar Joshi, Shashi Sharma, and Nisha Yadav**  
**Material Science Forum, 928 (2018) 100-105 (ISSN/ISBN: 1662-9752, IF: 0.425)**
7. Capturing of Magnetic Nanoparticles in a Fluidic Channel for Magnetic Drug Targeting  
**Shashi Sharma, Paras Ram**  
**Journal of Nanoscience and Nanotechnology, 20 (2020) 1-8 (ISSN: 1533-4880, IF: 1.4)**
8. MHD Flow of Non-Newtonian Molybdenum Disulfide Nanofluid in a Converging/Diverging Channel with Rosseland Radiation  
**J.Raza, F.M. Oudina, P. Ram, Shashi Sharma,**  
**Defect and Diffusion Forum, 401 (2020) 92-106 (ISSN/ISBN: 1662-9507, IF: 0.77)**
9. Room temperature magento-electric coupling in Pb–Zn substituted Co<sub>2</sub>Y-hexaferrite  
**N Paras, A Arya, R Kumar, Shashi Sharma, S Lal, V Kumar, A Gaur**  
**Journal of Materials Science: Materials in Electronics 33 (21) (2022) 16874-16888 (ISSN/ISBN: 0957-4522, IF: 2.8)**
10. Capture Efficiency of Magnetic Nanoparticles in a Tube under Magnetic Field

**Shashi Sharma, Anurag Gaur, Uaday Singh, V. K. Katiyar**

**Pr. Mat. Sci. 10 (2015) 64-69 (ISSN/ISBN: 2211-8128)**

11. Modeling and simulation of magnetic nanoparticles transport in a channel for magnetic drug targeting

**Shashi Sharma, Anurag Gaur, Uaday Singh, V. K. Katiyar**

**Recent Advances in Fluid Mechanics and Thermal Engineering, (2015) 116-120. (ISSN/ISBN: 978-1-61804-268-2)**

12. A Model for Magnetic Nanoparticles Transport in a Channel for Targeted Drug Delivery

**Shashi Sharma, Ravi Kumar, Anurag Gaur**

**Pr. Mat. Sci. 10 (2015) 44-49 (ISSN/ISBN: 2211-8128)**

13. Simulations on Drug Particles Transport within a Fluid in a Clotted Microchannel

Prativedra Singh, **Shashi Sharma, Anurag Gaur**

**Recent Advances in Fluid Mechanics and Thermal Engineering, (2015) 105-108. (ISSN/ISBN: 978-1-61804-268-2)**

14. Simulations on capture efficiency of magnetic particles transported in a fluidic channel

Prakash Chandra, **Shashi Sharma, Anurag Gaur**

**Applied Science Letter 1(3), (2015) 78-81 (ISSN/ISBN: 2394-5001)**

15. Magneto-Viscous Effects on Unsteady Nano-Ferrofluid Flow Influenced by Low Oscillating Magnetic Field in the Presence of Rotating Disk

Paras Ram, Vimal Kumar Joshi, **Shashi Sharma**

**Recent Advances in Fluid Mechanics and Thermal Engineering, (2015) 89-97. (ISSN/ISBN: 978-1-61804-268-2)**

16. Computer simulations on magnetic particles capturing in an implant assisted channel for targeted drug delivery

Prakash Chandra, **Shashi Sharma, D. Tripathi, Anurag Gaur**

**Trends in Drug Delivery, 2 (2) (2015) 1-7 (ISSN/ISBN: 2394-7268)**

17. Effect of magnetic field, flow rate and particle concentration on capture efficiency of magnetic nanoparticles transported in a fluidic channel

Nidhi, **Shashi Sharma, D. Tripathi, Anurag Gaur**

**Applied Science Letter, 1 (4) 60-63 (2015) (ISSN/ISBN: 2394-5001)**

18. Experimental Study on Capturing of Magnetic Nanoparticles Transported in an Implant Assisted Cylindrical Tube under Magnetic Field

Nidhi, **Shashi Sharma, Anurag Gaur**

**International Journal of Physical and Mathematical Sciences 9(9) (2015) 583-586 (ISSN/ISBN: 0304-8853)**

19. Mathematical Modeling on Capturing of Magnetic Nanoparticles in an Implant Assisted Channel for Magnetic Drug Targeting

**Shashi Sharma, V.K. Katiyar, Uaday Singh**

**International Journal of Physical and Mathematical Sciences 9(9) (2015) 1137-1140  
(ISSN/ISBN: 0304-8853)**

**20.** A Model for particle transport in a branched channel under the influence of multiple magnets at different locations

Karamveer, **Shashi Sharma**, Anurag Gaur, Paras Ram

**Applied Science Letter, 2 (3) 101-105 (2016) (ISSN/ISBN: 2394-5001)**

**(b) In other refereed Journals/Conference proceedings**

**21.** Simulation of magnetic particle transport in a cylindrical tube under external magnetic field

Shashi Sharma, Uday Singh, V.K. Katiyar

Proceedings of the International conference on Mathematical Sciences, (ICMS-2014),

**(Published in Elsevier, ISBN-978-93-5107-261-4), (2014) 997-1000)**

## **PERSONAL DETAILS**

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|                             |                       |
|-----------------------------|-----------------------|
| <b>Father's Name</b>        | Harish Chandra Sharma |
| <b>Date of Birth</b>        | 30.09.1983            |
| <b>Gender</b>               | Female                |
| <b>Category</b>             | General               |
| <b>Nationality</b>          | Indian                |
| <b>Marital status</b>       | Married               |
| <b>Language proficiency</b> | English, Hindi        |



**(Shashi Sharma)**