

## CURRICULUM VITAE

**Dr Shubham Jaiswal**

**Assistant Professor**

Department of Mathematics,

PGDAV College, University of Delhi,

Nehru Nagar, New Delhi, India-110065

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### **Career Objective:**

To become a professional teacher and researcher in mathematics where I can show my talent in my subject, use my ability to teach and develop students' brains in reasoning as well as the qualitative approach in mathematics and in turn add business value to the organization which I would work for.

### **Educational Qualification:**

- **Ph.D.** in Mathematics from Indian Institute of Technology (BHU), Varanasi in 2018.  
**Research Topic:** Study of Some Transport Phenomena Problems in Porous Media.  
**Supervisor:** Professor Subir Das
- **Master of Science (M.Sc)** in Mathematics from Kumaun University, Nainital in 2011.
- **Bachelor of Science (B.Sc)** from Kumaun University, Nainital in 2009.
- **Intermediate (10+2)** from U.P. Board in 2006.
- **High School (10)** from U.P. Board in 2004.

### **Working Experience:**

- [1] **Assistant Professor**, Dept. of Mathematics, PGDAV College, University of Delhi, New Delhi-110065, From Feb 2023 to till date.
- [2] **CSIR-Research Associate**, Dept. of Mathematics, South Asian University, New Delhi -110021, From Feb 2021 to Feb 2023.
- [3] **Assistant Professor**, Dept. of Mathematics, J.C. Bose University of Science & Technology, YMCA, Faridabad (Haryana) -121006, **Here I am taking the U.G., P.G. and B.Tech. Classes.** From July 2019 to May 2020 and July 2020 to January 2021.
- [4] **Assistant Professor**, Dept. of Mathematics, Akal University, Talwandi Sabo, Bhatinda (Punjab) -151302, **Here I have taken the U.G. & P.G. Classes.** From August 2018 to April 2019.
- [5] **Graduate Teaching Assistant**, Dept. of Mathematical Sciences, IIT (BHU), Varanasi. From August - 2013 to July - 2018.
- [6] **Tutor** at INSTITUTE OF CHEMICAL TECHNOLOGY, MATUNGA EAST, Mumbai {Category I Deemed to be University (MHRD/UGC), Elite Status and Centre Excellence, Govt. of Maharashtra.}, **where I have taken B.tech and B.Chem class.** From January 04, 2013, to July 31, 2013.
- [7] **Junior Project Fellow (JPF)** in a Project "Study of Curriculum at Higher Secondary Stage in Mathematics" at NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING (NCERT), New Delhi, From July 05, 2012, to December 31, 2012.

### **Published/Accepted/Communicated Papers in National and International Journals:**

- [1] **Shubham Jaiswal**, M. Chopra, S.H. Ong, and S. Das, "Numerical Solution of One-Dimensional Finite Solute Transport System with First Type Source Boundary Condition", *International Journal of Applied and Computational Mathematics (Springer)*, 3, 3035-3045, 2017. ISSN: 2349-5103.

- [2] **Shubham Jaiswal**, M. Chopra, and S. Das, “Numerical Solution of Space Fractional Order Solute Transport System”, *Journal of Porous Media (Begell House)*, 21(2), 145-160, 2018. ISSN: 1091-028X, IF: 1.151.
- [3] **Shubham Jaiswal**, M. Chopra, and S. Das, “Numerical Solution of Two-dimensional Solute Transport System using Operational Matrices”, *Transport in Porous Media (Springer)*, 122(1), 1-23, 2018. ISSN: 0169-3913, IF: 2.211.
- [4] **Shubham Jaiswal**, M. Chopra and S. Das, “Numerical Solution of Non-linear Partial Differential Equation arising in Porous Media using Operational Matrices”. *Mathematics and Computers in Simulation (Elsevier)*, 160, 138-154, 2019. ISSN: 0378-4754, IF: 1.643.
- [5] **Shubham Jaiswal** and S. Das, “Numerical Solution of Linear/Nonlinear Fractional Order Differential Equations Using Jacobi Operational Matrix”. *International Journal of Applied and Computational Mathematics (Springer)*. 5:42, 2019. ISSN: 2349-5103. DOI: 10.1007/s40819-019-0625-z.
- [6] **Shubham Jaiswal**, S. Das, Ramu Dubey and A. K. Tiwari, “Jacobi Collocation Technique to Solve Nonlinear Reaction-Diffusion Equation”, *International Journal for Computational Methods in Engineering Science and Mechanics (Taylor & Francis)*, 22(3), 208-215, 2021. ISSN: 1550-2287. DOI: 10.1080/15502287.2021.1916691.
- [7] Ramu Dubey, Arvind Kumar, Pooja Gupta, **Shubham Jaiswal** and Vishnu Narayan Mishra, “Special class of G-Wolfe type fractional symmetric duality theorems under G-pseudoinvexity assumptions”. *Journal of Physics: Conference Series (IOP Publishing)*. 1724(1), 2021. DOI: 10.1088/1742-6596/1724/1/012027.
- [8] **Shubham Jaiswal**, S. Das and J. F. Gómez-Aguilar, “A new approach to solve the fractional order linear/non-linear two-dimensional partial differential equation using Legendre collocation technique”. *Few-Body system (Springer)*, 63(3), 56, 2022. ISSN: 1432-5411. DOI: 10.1007/s00601-022-01757-x
- [9] Jyotsana, R. Chugh, **Shubham Jaiswal** and R. Dubey, “Stability of Various Functional Equation in non-Archimedean  $(n, \beta)$ - normed spaces”, *Journal of Analysis (Springer)*, 30(4), 1653-1669, 2022. ISSN: 2367-2501. DOI: 10.1007/s41478-022-00423-z
- [10] **Shubham Jaiswal**, Sachin Kumar and Kapil Kumar Sharma, “A spectral-finite difference method for solving Mittag-Leffer kernel fractional Kuramoto-Sivashinsky equation with application” *Communicated*.
- [11] **Shubham Jaiswal**, Sachin Kumar and Kapil Kumar Sharma, “Numerical solution of fuzzy singular and non-singular time fractional reaction-diffusion equation with time delay” *Communicated*.

#### Paper Presented at the Conference:

- [1] “Numerical solution of space fractional order solute transport system”, National conference on Emerging Trends in Physics of Fluids & Solids (NCETPFS-2016), held during March 03-04, 2016, Organized by Department of Mathematics, Jadavpur University, Kolkata.
- [2] “Numerical solution of space fractional order advection-dispersion equation using Chebyshev collocation method”, International Conference on Mathematical Modeling and Simulation (ICMMS-2016), held during August 29-31, 2016, Organized by Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi.
- [3] “Numerical solution of non-linear partial differential equation arising in porous media using operational matrices”, 4<sup>th</sup> International Conference on Mathematics and Computing (ICMC-2018), held during January 09-11, 2018, Organized by Department of Mathematical Sciences, Indian Institute of Technology (BHU), Varanasi.
- [4] “Numerical solution of linear/non-linear space fractional order differential equations using Jacobi polynomial”, 33<sup>rd</sup> Annual National Conference of Mathematical Society-BHU “Recent Advances in Mathematical Modeling & Analysis”, held during February 16-17, 2018, Organized by Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi.
- [5] “A new approach to solve the standard as well as fractional order linear/non-linear two-dimensional partial differential equation using Legendre collocation technique”, 8<sup>th</sup> International Symposium on Fusion of Science & Technology (ISFT-2020), held at JCBUST, YMCA, Faridabad from January 6-10, 2020.

#### Workshop/Symposium/Course Attended:

- [1] “National Workshop on Mathematical Modeling and Computer Simulation (NWMMCS-2015)”, held during March 20-21, 2015, organized by Teaching - Learning Cell IIT (BHU), Varanasi.

- [2] “National Symposium on Research Methodology for Future Researchers (RMFR-2015)”, held on March 22, 2015, organized by Teaching - Learning Cell IIT (BHU), Varanasi.
- [3] “National Program on Differential Equations: Theory, Computation & Applications (NPDE-TCA)”, held during May 18 - June 4, 2015, organized by Indian Institute of Technology Kanpur, Kanpur.
- [4] Global Initiative of Academic Networks (GIAN) course on “Volume Averaging Method for Upscaling in Porous Media”, held during January 5-16, 2016 at IIT (BHU), Varanasi.
- [5] “National Program on Differential Equations: Theory, Computation & Applications (NPDE-TCA)”, held during August 24-29, 2016, organized by DST-CIMS, Banaras Hindu University, Varanasi.
- [6] Global Initiative of Academic Networks (GIAN) course on “Isogeometric Methods Using B-Splines and Nurbs”, held during December 16-20, 2017 at IIT (BHU), Varanasi.
- [7] Global Initiative of Academic Networks (GIAN) course on “Wavelets and Their Application in Signal and Image Processing”, held during December 21-25, 2017 at IIT (BHU), Varanasi.
- [8] “Training Program on Tools for Scientific Documentation: LaTeX, JobRef, DocEar and Other Open-Source Software”, held during February 05-16, 2018, organized by DST-CIMS, Banaras Hindu University, Varanasi.
- [9] One-week Faculty Development Program on “Innovative Teaching Methodologies in Technical Education”, held during September 24-28, 2019, organized by the Department of Management Studies, JCBUST, YMCA, Faridabad.
- [10] One-week short-term course on “Emerging Trends in Data Science and its Application”, held during November 11-15, 2019, organized by the Department of Mathematics, JCBUST, YMCA, Faridabad.
- [11] One-day workshop on “Outcome Based Education and Attainment”, held on December 06, 2019, at J. C. Bose University of Science & Technology, YMCA, Faridabad.
- [12] Two-day workshop on “Mathematical Modeling & Simulation” to celebrate the National Mathematics Day on January 28-29, 2020 sponsored by Haryana State Council for Science, Innovation & Technology, organized by Department of Mathematics, JCBUST, YMCA, Faridabad.
- [13] “NPTEL Workshop” held on January 31, 2020, organized by IIT Madras, at JCBUST, YMCA, Faridabad.
- [14] Faculty Development Programme on “Moodle Learning Management System”, held during March 28 – June 30, 2020, organized by Patna Women's College with course material provided by Spoken Tutorial Project, IIT Bombay.
- [15] Two-week course on “Digital Transformation in Teaching Learning Process”, held during April 06-22, 2020, organized by TEQIP Online Certification, funded by Ministry of HRD, Govt. of India.
- [16] One-day webinar on “Current trends in Information Technology”, held on May 15, 2020, organized by the Department of Computer Science in Collaboration with the Department of Mathematics, Bharati College, University of Delhi.
- [17] “Online Faculty Development Programme on “Moodle LMS: Exploring New Horizons of Teaching-Learning”, held during May 15-21, 2020, organized by the Department of MCA & Computer Science, Patna Women's College in association with Remote Learning through Spoken Tutorial, IIT, Mumbai.
- [18] One-day webinar on “Application of Mathematics in Engineering”, held on May 27, 2020, organized by the Department of Applied Sciences and Humanities, IIMT College of Engineering, Greater Noida.
- [19] One-day webinar on “Project Based Learning: A Different Way to Explore Engineering” held on May 28, 2020, organized by the School of Engineering and Technology, Central University of Haryana, Mahendergarh.
- [20] “2020 International workshop on Education 4.0: Transformation of Learning Environment”, held during May 29-30, 2020, organized by Rajkiya Engineering College, Banda in collaboration with Consilio Intelligence Research Lab, Noida.
- [21] One-week online Faculty Development Programme on “Research in Modern Era”, held during June 01-05, 2020, organized by the Department of Mechanical Engineering, JCBUST, YMCA, Faridabad.
- [22] One-day webinar on “Use of ICT in Good Governance”, held on June 7, 2020, jointly organized by the Department of Electrical Engineering & Institution's Innovation Council, Rajkiya Engineering College Banda.
- [23] Three-day international webinar on “General Mathematical Tools in Research: Theory and Applications”, held during June 15-17, 2020, organized by the Department of Mathematics, Faculty of Engineering and Computer Sciences, Teerthanker Mahaveer University, Moradabad.

- [24] Two-weeks workshop on “Scientific Computing using MATLAB and PYTHON (SCMP-2020)”, held during September 07-18, 2020, organized by the Department of Computer Engineering and Department of Mathematics, JCBUST, YMCA, Faridabad under the aegis of TEQIP-3.
- [25] Expert talk on “The Legacy of Srinivasa Ramanujan” to celebrate the National Mathematics Day-2020 on December 22, 2020, sponsored by Haryana State Council for Science, Innovation & Technology, organized by the Department of Mathematics, JCBUST, YMCA, Faridabad.
- [26] Short-term course on “Optimization Techniques and Stochastic Process”, January 20-21, 2021, Department of Mathematics, JCBUST, YMCA, Faridabad.
- [27] Advanced Instructional School (AIS) on “Fractional Differential Equations: Theory and Computations”, held on Dec 12-24, 2022, organized by South Asian University, New Delhi, funded by National Centre for Mathematics: A joint centre of TIFR and IIT Bombay.
- [28] Two-weeks Faculty Development Programme on “Computer Algebra System”, held during March 22 – April 03, 2023, organized by IQAC, Ramjas College, University of Delhi, in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
- [29] Four-week Faculty Induction/Orientation Programme for “Faculty in Universities/ Colleges/ Institutes of Higher Education”, held during April 23, 2023 – May 22, 2023, organized by Teaching Learning Cell, Ramanujan College, University of Delhi, in collaboration with Army Institute of Education (AIE), Greater Noida affiliated to Guru Gobind Singh Indraprastha University, Delhi under the aegis of Ministry of Education Pandit Madan Mohan Malviya National Mission on Teachers and Teaching.
- [30] One-week Pedagogical Training for Mathematics Teachers (PTMT) 2023 on “Linear Algebra”, held during December 11, 2023 – December 16, 2023, organized by Central University of Tamil Nadu, Thiruvarur, Tamil Nadu.
- [31] Two-Week Refresher Course in Mathematics: Foundation Course in Vedic Mathematics”, held during March 31-April 13, 2024, organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education, Malaviya Mission Teacher Training Programme.
- [32] Two-week online Teacher Enrichment Workshop on “Elements of Data Management and Analytics” held during April 1-13, 2024, organized by the Department of Mathematics, Jaypee Institute of Information Technology, Noida, India.

#### Participation:

- [1] Presented a poster in the poster competition organized by the Department of Mathematics, M. B. Govt. P.G. College, Haldwani, Nainital.
- [2] “National Meet on Celebration of National Year of Mathematics – 2012”, Organized by the Department of Education in Science and Mathematics, NIE Campus, NCERT, New Delhi, from December 20-22, 2012.
- [3] Presented a poster entitled “**Numerical Solution of Space Fractional Order Solute Transport System**” on Institute Day during April 2-3, 2016 at IIT (BHU), Varanasi.
- [4] Presented a poster entitled “**Numerical Solution of Two-dimensional Solute Transport System using Operational Matrices**” on Institute Day during February 16-18, 2018 at IIT (BHU), Varanasi.
- [5] Participated in “National Level Quiz cum Awareness Programme on Covid-19” on May 28, 2020, and secured 70% Marks. The online quiz was organised by the Department of Mathematics, Govt. Tulsi College, Anuppur (M.P.). Certificate Id: EDD8KW-CE000148.
- [6] Attended the “Inaugural Ceremony of Faculty Induction Programme NEP 2020: Pedagogical Imperatives of Higher Education”, organized by University of Delhi on Friday, December 01, 2023.

#### Invited Talk/Lecture:

- [1] An invited lecture on “Numerical Scheme in Groundwater Contamination” in the International Workshop on “Numerical Methods in ODEs/PDEs & Computational Intelligence on March 20, 2024 organized by Department of Mathematics, KS Saket PG College, Ayodhya from March 18-22, 2024.

#### Position of Responsibility:

- President of the Department of Mathematics during M.Sc. (Mathematics).

- Member of Hostel Executive Committee (HEC), IIT (BHU), Varanasi.
- Member of Judgement Committee in the quiz competition Quiz-O-Maths on September 12, 2019, organized by the Department of Mathematics, JCBUST, YMCA, Faridabad.
- Member of organizing team of Math Fest'19 on September 12, 2019, organized by the Department of Mathematics, JCBUST, YMCA, Faridabad.
- Member of organizing committee in the short-term course on “Emerging Trends in Data Science and its Application”, November 11-15, 2019 Department of Mathematics, JCBUST, YMCA, Faridabad.
- Co-Ordinator of the two-day workshop on “Mathematical Modeling & Simulation” to celebrate the National Mathematics Day on January 28-29, 2020 sponsored by Haryana State Council for Science, Innovation & Technology, organized by the Department of Mathematics, JCBUST, YMCA, Faridabad.
- Member of organizing committee in the two-week workshop on “Scientific Computing using MATLAB & PYTHON”, September 07-18, 2020, Department of Mathematics, JCBUST, YMCA, Faridabad.
- Organizing Co-coordinator of expert talk on “The Legacy of Srinivasa Ramanujan” to celebrate the National Mathematics Day-2020 on December 22, 2020, sponsored by Haryana State Council for Science, Innovation & Technology, organized by the Department of Mathematics, JCBUST, YMCA, Faridabad.
- Member of organizing committee in the short-term course on “Optimization Techniques and Stochastic Process”, January 20-21, 2021, Department of Mathematics, JCBUST, YMCA, Faridabad.
- U.G. class coordinator at Department of Mathematics, JCBUST, YMCA, Faridabad.
- Department website coordinator at Dept. of Mathematics, JCBUST, YMCA, Faridabad.
- Department MOOC co-coordinator at Department of Mathematics, JCBUST, YMCA, Faridabad.
- Department Annual Report coordinator at Department of Mathematics, JCBUST, YMCA, Faridabad.
- Member of Admission Committee of U.G. & P.G. at Department of Mathematics, JCBUST, YMCA, Faridabad.
- Organizing Member of CONFLUENCE'23, held on March 25, 2023, organized by the ANANT-The Mathematical Society of PGDAV College, University of Delhi.
- Organizing Member of SPECTRUM'23: The Annual Mathematics Fest on April 13, 2023, organized by the ANANT-The Mathematical Society of PGDAV College, University of Delhi.
- Member of the Discipline and IT Infrastructure Committee, for the “Academic Year 2023-24”, PGDAV College, University of Delhi, New Delhi.
- Teacher Coordinator of Paper Presentation Competition on National Mathematics Week (the occasion of 136<sup>th</sup> Birth Anniversary of Srinivasa Ramanujan), held during December 18-24, 2023, organized by PGDAV College, University of Delhi.
- Co-convener of the two-day “Guest Lecture Series on Applied Mathematics: Theory and Applications” held on March 15-16, 2024, organized by Department of Mathematics, PGDAV College, University of Delhi.
- Organizing Member of CONFLUENCE'24: The Alumni Meet & SPECTRUM'24: The Annual Mathematics Fest on April 15, 2024, organized by the ANANT-The Mathematical Society of PGDAV College, University of Delhi.
- Member of the Judgement Committee in the KING'S GAMBIT competition in SPECTRUM'24- The Annual Mathematics Fest on April 15, 2024, organized by the ANANT-The Mathematical Society of PGDAV College, University of Delhi.

### Project Profile:

#### Project I: RECENT DEVELOPMENT IN FLUID DYNAMICS

**Duration** -06 months | **Team Size-1** | **Type-Degree Project**

**Description:** It is a biological project which clarifies the importance of fluid dynamics in blood circulation. The objective is to achieve a certain theory for which the role of fluid dynamics in aerodynamics, hydrodynamics, electrostatics, capillary, etc. can be enlightened.

### Current Research:

Solute transport phenomena in porous media, Approximate Analytical and Numerical Methods, Solutions of standard, as well as fractional order linear and nonlinear problems, Linear/Nonlinear Diffusion Equation, Fractional Calculus.

#### **Awards and Honors:**

- Graduate Aptitude Test in Engineering (GATE) in Mathematics, 2012.
- CSIR Research Associate Fellowship 2019-20.

#### **Achievements:**

- Won 1<sup>st</sup> PRIZE in degree project during M.Sc. II-year in 2011.
- Won 1<sup>st</sup> PRIZE in Poster-Presentation during M.Sc. I-year in 2010.

#### **Software Skills:**

- *Programming Language:* C/C++, R, PYTHON.
- *Software Package:* MATLAB, MATHEMATICA.
- *Typesetting Software:* MS-Office, LaTeX, LyX.
- *Operating Systems:* Windows, Unix/Linux (Ubuntu & Fedora).

#### **PERSONAL DETAILS:**

Father's Name : Late Shri Santosh Kumar Jaiswal  
Mother's Name : Mrs. S. Jaiswal  
Occupation : House Wife  
Date of Birth : March 30, 1990  
Marital Status : Married  
Gender : Male  
Nationality : Indian  
Location Preferred : Ready to relocate anywhere in India or Abroad.  
Permanent Address : Plot No.55, II Floor, Anand Vihar Colony,  
Nehru Nagar-III, Ghaziabad, U.P.-201001

#### **MY HOBBIES:**

- Visiting holy and historical places.
- Updating my key skills.

#### **DECLARATION:**

I hereby certify all the information provided here is correct to the best of my knowledge.

**Place:** New Delhi

**Date:**

**Shubham Jaiswal**