Curriculum Vitae

Sanjeev Anand Sahu

Professor
Room No. 306, Department of Mathematics and Computing
Indian Institute of Technology (ISM), Dhanbad
Jharkhand, India, 826004
Email: sanjeev@iitism.ac.in, ism.sanjeev@gmail.com
Phone: (+91) 326-2235917 (O)

Academic Experience

- Professor (April 2026–Present), Department of Mathematics & Computing, IIT(ISM), Dhanbad
- Associate Professor (April 2021–April 2026), Department of Mathematics & Computing, IIT(ISM) Dhanbad
- Assistant Professor (June 2012–April 2021), Department of Mathematics & Computing, IIT(ISM) Dhanbad
- Lecturer (Nov 2005–April 2008), Pt. Ravishankar Shukla University, Raipur
- Lecturer (July 2005–Nov 2005), NIT Raipur

Research Interests

- Differential Equations and Mathematical Physics
- Continuum Modeling of Wave Dynamics in Smart Materials
- Solid Mechanics and Seismic Wave Analysis
- Early Earthquake Warning System (Ionospheric Perturbation Analysis)

Research Stats

- No. of Publications: 118 (in Peer reviewed journal), 14 (in conference proceedings)
- i-10 Index: 67, H-index (WoS): 27, Citation: 1775 (WoS)
- Web of Science Researcher ID: ADH-9995-2022

Education

- **Ph.D. (Applied Mathematics)**, IIT(ISM) Dhanbad, 2012
  Thesis: Study of Seismic Wave Propagation in Anisotropic Media
  Advisor: Prof. Amares Chattopadhyay.
- **M.Sc. (Mathematics)**, Govt. Science College, Guru Ghasidas University, Bilaspur, 2005.

- **B.Sc. (Mathematics, Physics, Chemistry)**, Govt. Science College, Guru Ghasidas University, Bilaspur, 2003.

Sponsored Projects

- Texmin foundation project: "Mineral Prospectivity Mapping of Critical Minerals (Li & REE) in Pegmatite of Koderma Mica Belt using Hybrid CNN Approach", Rs. 18.50 Lakh (PI), 2025-2027
- UGC Project: "Bioscopy - Towards modern transdisciplinary education and research in microscopy", Rs. 1.14 Cr (Co-PI), 2025–2028
- DST(SERB): "Earthquake Early Warning detection using AI", Rs. 6.6 Lakh (PI), 2021–2024
- NBHM: "Mathematical Modeling of Elastic Wave Propagation", Rs. 14.38 Lakh (Co-PI), 2017–2020
- DST(SERB): "Surface Wave Propagation in Piezoelectric Material", Rs. 15.02 Lakh (PI), 2016–2019
- MHRD: Faculty Development Center (PMMMNMTT), Rs. 7.56 Cr (Co-PI), 2015-2020

Teaching (2019-2025)

- Mathematics-I (Monsoon 2019 to 2026)
- Mathematics-II (Winter 2019, Winter 2023 to 2025)
- Analysis (Monsoon 2021 to 2024)
- Measure Theory (Winter 2022 to 2023)
- Discrete Mathematics (Winter 2019 to 2020)
- DBMS Theory (Winter 2017 to 2021)
- Graph Theory (Winter 2020 to 2022)
- Numerical Methods (Monsoon 2019)
- Social Entrepreneurship (Monsoon 2022 to 2023, Winter 2022 to 2023)
- DBMS Practical (Winter 2019 to 2024)
- Numerical Methods Practical (Monsoon 2019)

Ph.D. Supervision

1. Pradeep Kumar Saroj (Degree awarded, 2016)
2. Nirmala Kumari (Co-guide), (Degree awarded, 2016)
3. Mita Chatterjee (Co-guide), (Degree awarded, 2016)
4. Brijendra Paswan (Degree awarded, 2017)
5. Sonia Chaudhary (Degree awarded, 2018)

6. Manoj Kumar Singh (Degree awarded, 2019)
7. Nidhi Dewangan (Degree awarded, 2019)
8. Kamlesh Kumar Pankaj (Degree awarded, 2019)
9. Abhinav Singhal (Degree awarded, 2020)
10. Juhi Baroi (Degree awarded, 2021)
11. Sonali Mondal (Degree awarded, 2021)
12. Subhashis Karmakar (Degree awarded, 2022)
13. Suman Goyal (Degree awarded, 2022)
14. Shreeta Kumari (Degree awarded, 2022)
15. Sonal Nirwal (Degree awarded, 2022)
16. Mahargha Biswas (Degree awarded, 2025)

Ongoing:

1. Shreya Shukla
2. Kirti
3. Dusmant Naik
4. Yashika Bhiraniya
5. Dipti Mishra
6. Ridip Das
7. Ajay Pratap Singh

MPhil Supervision

- Degree Awarded: 03

M.Tech./M.Sc. Project Supervision

- Degree Awarded: 30
- Ongoing: 04

Administrative/Extra Curricular Activities

- Associate Dean (Students Welfare - Students Wellbeing), IIT(ISM) Dhanbad (July 2026 - Present)
- Associate Dean, Rajbhasha Karyanvayan, IIT(ISM) Dhanbad (April 2023 - October 2023)
- Head, center of Societal Mission, IIT(ISM) Dhanbad (since May 2019)
- Nodal Officer (Jharkhand), Yuva Sangam (2024-2025)
- Faculty Advisor of SIAM Student Chapter, IIT(ISM) Dhanbad (since 2015)
- Deputy coordinator, Faculty Development center (FDC) (under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching funded by Department of Higher Education, Ministry of Human Recourse and Development, Government of India), IIT(ISM) Dhanbad (2015-2021)
- Coordinator, Unnat Bharat Abhiyan (UBA), IIT(ISM) Dhanbad
- Associate Editor, International Journal of Geophysics [Special issue, Elastic Wave Propagation and Earthquake Seismology (EWPES)]
- In-Charge, Time-Table (Applied Mathematics), (2016–2022)
- Member of Central Time Table Committee, IIT(ISM) Dhanbad
- Member of DFSC, Mathematics & Computing, IIT(ISM) Dhanbad
- Member of DUGC, Mathematics & Computing, IIT(ISM) Dhanbad
- Reviewer of several SCI journals of international repute

Awards and Fellowships

- Student Travel Award by Society for Industrial and Applied Mathematics (SIAM) to present paper in SIAM conference at Washington University, Seattle, USA. June 13-16, 2012.
- International Travel award under Young Scientist category to present paper in American Conference on Applied Mathematics (American-Math '12) at Harvard, Cambridge (MA), USA, 25-27 January, 2012.
- Young Scientist award for best research paper in Mathematics in an international conference of 'International Academy of Physical Sciences', December 2010.
- Contributed and presented paper was awarded the best poster presentation award in 96th annual conference of 'Indian Science Congress Association', January 2010.
- Junior Research Fellowship of DST(SERB),December, 2008-April, 2012.

Memberships

- Society for Industrial and Applied Mathematics (SIAM), USA.
- Indian Science Congress Association, Kolkata, India. (Life member ID: L-15020)
- Von Karman Society for Advanced Study & Research in Mathematical Sciences, Jalpaiguri, India.
- International Academy of Physical Sciences, Allahabad, India.

Conferences/Workshops/Camps organized

1. 'Yuva Sangam' 2024-25 under Ek Bharat Shreshtha Bharat, MoE, Govt. of India [Nodal Officer, Jharkhand]
2. National Conference on Modeling Analysis and Simulation (MAS-2024), June 28 - 30, 2024 [CONVENER]
3. National Conference on Modeling Analysis and Simulation (MAS-2019), DEC 16 – 18, 2019 [Organizing Secretary]
4. Srijan (2018-19), A cultural fest of IIT(ISM) Dhanbad, March 2019. [Co-Convener]
5. Math Quizpiad (4.0)-2018, under SIAM student chapter IIT(ISM) Dhanbad. [Coordinator]
6. Free Medical Camp for Adapted villages under Unnat Bharat Abhiyan, 03.02.2018 [Coordinator]
7. 03 days Rubik-Cube workshop at IIT(ISM) Dhanbad, 9 - 11 Feb. 2018 [Coordinator]
8. Refresher Programme in Chemistry of Faculty Development Center held at IIT(ISM) Dhanbad during June 08 - 28, 2018. [FDC Co-coordinator]
9. Induction Training/Orientation Programme of Faculty Development Center held at IIT(ISM) Dhanbad during November 15, 2019 - December 12, 2019. [Programme Co-coordinator]
10. Refresher Programme in Physics of Faculty Development Center held at IIT(ISM) Dhanbad during May 29 - June 18, 2018. [FDC Co-coordinator]
11. Induction Training/Orientation Programme of Faculty Development Center held at IIT(ISM) Dhanbad during December 28, 2017 - January 25, 2018. [Programme Co-coordinator]
12. National Training Programme on Wireless Sensor Networks of Faculty Development Center held at IIT(ISM) Dhanbad during December 18 - 22, 2017. [FDC Co-coordinator]
13. National Training Programme on Research Methodology of Faculty Development Center held at IIT(ISM) Dhanbad during December 18-23, 2017. [Programme Co-coordinator]
14. 01 week National Training Programme in 'Mathematica' under Faculty Development center, IIT(ISM) Dhanbad from 04-December-2017 to 09-December-2017. [Coordinator]

15. National Training Programme on Mineral Processing of Faculty Development Center held at IIT(ISM) Dhanbad during June 26 - July 01, 2017. [FDC Co-coordinator]

16. Refresher Programme in Chemistry of Faculty Development Center held at IIT(ISM) Dhanbad during June 1 - 21, 2017. [FDC Co-coordinator]

17. Refresher Programme in Physics of Faculty Development Center held at IIT(ISM) Dhanbad during May 25, 2017 - June 14, 2017. [FDC Co-coordinator]

18. 21 Days Refresher Programme on 'Mathematical Sciences" for College/University/ Institute Teachers under Faculty Development Center, IIT(ISM) Dhanbad from 16 May - 05 June 2017. [Coordinator]

19. 1st Refresher course in recent trends in microwave devices and antennas of Faculty Development Center held at IIT(ISM) Dhanbad during December 26, 2016 - January 15, 2017. [FDC Co-coordinator]

20. 1st Orientation programme of Faculty Development Center held at IIT(ISM) Dhanbad during February 09 - 29, 2016. [Program Co-coordinator]

21. First Orientation Program for College/University/Institute Teachers under Faculty Development center, January 2016. [Program Coordinator].

22. RASE-2016, A National Conference on Recent Advances in Science & Technology, March 28 - 29, 2016. [Treasurer]

23. 7th WMVC-2015, a National conference on Wave Mechanics & Vibrations, at IIT(SM) Dhanbad, during Dec. 21 - 23, 2015. [CONVENER]

24. Math Quizpiad-1.0, under SIAM student chapter IIT(ISM) Dhanbad. 2015. [Coordinator]

Invited Talks/Paper Presentation (Selected)

- "Theoretical Seismology: An interdisciplinary research area" in a two-day workshop on Interdisciplinary approaches to structural dynamics, seismology and sustainable engineering organized by Ramaiah University of Applied Sciences, Bangalore on 30.09.2026. (Keynote lecture)
- "Wave Dynamics through Differential Equations: An Interdisciplinary Perspective" on 28.09.2026 in Refresher Course on "Applications of Mathematics", organized by the UGC-Malaviya Mission Teacher Training Centre, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh (Invited talk)
- "STEAMArohan: Empowering Schools Through Research and Innovation" in Steamarohan Workshop under NISHTHA (National Initiative for School Heads & Teachers Holistic Advancement) at IIT(ISM) Dhanbad, January 06, 2025. (Resource Person).
- "Differential Equations: A Gateway to real world modeling", One Week International Faculty Development Program (FDP) entitled "Quantifying Innovation: The Role of Mathematics & Statistics in Science & Technology", O P Jindal University, January 22, 2026. (Invited talk).

- "Life and works of Srinivasa Ramanujan", National Mathematics Day 2025 at Department of Mathematics, Magadh University, Bodh Gaya, December 22, 2025. (Keynote lecture).
- Short Term Training Programme on Advances in Continuum Models: Applications in Science & Engineering at Gati Shakti Vishwavidyalaya, Vadodara, Gujarat. April 2025. (Invited talk).
- Value Added Courses on Quantitative Aptitude at O P Jindal University, Raigarh. November 2024. (Invited Talk).
- International Conference on Mathematical Modelling and Intelligent Systems, Krishnagiri, Tamilnadu, March 2024. (Invited Talk).
- National Workshop on Differential Equations, Adhiyaman Arts ,& Science College, Uthangarai, Tamilnadu, March 2024. (Expert Talk).
- Unlock your future: A Career Counseling Session at Saluja Gold International School, Giridih, March 2024. (Expert Talk).
- Modeling Aspects in Earth Science, O P Jindal University, Raigarh, Feb. 2024. (Invited Talk).
- Analytical methods for wave equations and their applications in optimization of seismic wave device and ultrasonic transducers in STUTI training program on Mathematical Methods with Applications, IIT(ISM) Dhanbad, March 2023. (Expert Talk).
- Refresher course in Physics (UGC – HRDC) at Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, December 2022. (Invited Talk).
- Refresher Course in Mathematics (UGC-HRDC) at Pt. Ravishankar Shukla University Raipur, January 2022. (Resource Person).
- Inventions that changed Human Life in R. S. More College, Dhanbad, 27-Jan-2018. (Invited Talk).
- 21 days Refresher Programme in Mathematical Sciences, at IIT(ISM) Dhanbad, May 16-June 05, 2017. (Resource Person).
- Mathematical Modelling of Elastodynamics Problems at IIT(ISM) Dhanbad, August 06-08, 2017. (Resource Person).
- Short Term Course on Integral Transformations, Distribution and Wavelet Analysis, at IIT(ISM) Dhanbad, Dec. 2015. (Invited Talk).
- 6th WMVC-2014: A National conference in Wave Mechanics & Vibrations at Silliguri (W.B.), November 2014. (Invited Talk).
- Fuzzy-2013: A National conference at Govt. Science College Bilaspur (C.G.), February 2013. (Invited Talk).
- Presented paper "Mathematical Analysis of Surface Wave Vibration İn FGPM Composite Structure" in Fourth International Conference on Mathematics and Statistics (AUS-ICMS'25), American University of Sharjah, UAE. Feb 20-22, 2025.
- Presented paper "Analysis of surface wave vibration in FGPM composite: WKB approximation" in 67th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM-2022) at IIT Mandi. 14-16 December 2022.

- Presented paper "Seismic Wave in Magnetoelastic Irregular Anisotropic Layer" in American Conference on Applied Mathematics (American Math-12) at Harvard, Cambridge, USA. January'25, 2012.
- Propagation of Magnetoelastic Shar Waves in Multilayered Anisotropic Media (Awarded as Best Poster Presentation) in 97th Indian Science Congress at University of Kerala, Thiruvananthapuram. January 03-07, 2010.
- Presented paper "Effect of point source and inhomogeneity on SH wave propagation in viscoelastic media" in 55th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM-2010) at NIT Hamirpur.
- Presented paper "Propagation of SH waves in Multilayered Viscoelastic Medium: A Finite Difference Approach" in ICM-2010, Hyderabad. August 19-27, 2010.
- Presented paper "Effect of Irregularity on the Propagation of SH Waves in Monoclinic Magnetoelastic layer" in 75^{th} Annual Conference of Indian Mathematical Society. Kalasalingam University, Krishnankoil, Tamil Nadu, India. December 27-30, 2009.
- Homi Bhabha Birth Centenary Symposium on Hyperbolic Partial Differential Equations. TIFR, Bangalore. July 20-24, 2009. (Participated).