

AJEET KUMAR SINGH

PERSONAL INFORMATION

Dr. Ajeet Kumar Singh

Assistant Professor (Mathematics)

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[skykAAAAJ&hl=en&authuser=1](https://scholar.google.com/citations?user=G2-skykAAAAJ&hl=en&authuser=1)

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CONTACT DETAILS

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RESEARCH TOPICS

Applied Mathematics, Theoretical Seismology, Mathematical Modeling, Solid Mechanics, Fracture Mechanics, Crack Propagation, Wave Propagation, Smart Material and Structure

TEACHING EXPERIENCE

- I am working as an **Assistant Professor (Mathematics)** from October 23, 2024 to Till Date, at Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut-250110.
- I worked as an **Assistant Professor (Mathematics)** at Galgotias University, Greater Noida, Uttar Pradesh, India, from August 31, 2022, to October 22, 2024.

EDUCATION

- **Doctor of Philosophy (Ph.D.)** in Applied Mathematics from Indian Institute of Technology (Indian School of Mines), Dhanbad, Jharkhand, India. (2023).
Ph.D. Thesis title: **Mathematical analysis of elastodynamic problems involving layered structures comprising homogeneous/heterogeneous and isotropic/anisotropic media.**
Supervisor: **Prof. Abhishek Kumar Singh.**
- **Post Graduation (M.Sc.)** in Mathematics from Deen Dayal Upadhyaya Gorakhpur University Gorakhpur, India, (2014).
- **Graduation (B.Sc.)** in Mathematics, Physics & Chemistry from Deen Dayal Upadhyaya Gorakhpur University Gorakhpur, India, (2012).

AWARDS/ACHIEVEMENTS/SCHOLERSHIPS/FELLOWSHIPS

- ❖ Cleared **CSIR-UGC JRF** in **Mathematical Sciences** with **AIR 106** on December 2016.
- ❖ Cleared **Graduate Aptitude Test in Engineering (GATE)** in **Mathematics Paper** with **AIR 429** on 2017.
- ❖ Awarded **University Grands Commission (UGC) Junior Research Fellowship** during the first two years of **Ph.D.**
- ❖ Awarded **University Grands Commission (UGC) Senior Research Fellowship** during the last three years of **Ph.D.**

RESEARCH PAPERS PUBLISHED

[The mentioned quartiles were assigned during the times each respective paper was published. Source of quartiles: clarivates analytics ([web of science](#))]

1. **Singh, A.K.**, Singh, A.K., Yadav, R.P. and Guha, S., 2024. Analysis of stress intensity factor for moving Griffith crack in a transversely isotropic strip under punch pressure. *Arabian Journal of Geosciences*, 17(11), pp.1-12. <https://doi.org/10.1007/s12517-024-12098-w>
2. Singh, A.K. and **Singh, A.K.**, 2024. Mathematical analysis on the diffraction of shear waves in an initially stressed dry sandy medium by a rigid strip. *Waves in Random and Complex Media*, pp.1-20. <https://doi.org/10.1080/17455030.2024.2345141>
3. **Singh, A.K.** and Singh, A.K., 2024. Propagation of semi-infinite crack in an initially stressed dry sandy medium impacted by shear wave. *Acta Mechanica*, pp.1-16. (**Impact Factor 2.698**) (**Springer**) **SCI/SCIE(Q2)**. <https://doi.org/10.1007/s00707-024-03917-y>.
4. **Singh, A.K.**, 2023. Anisotropy and magnetoelasticity effects on the propagation of the SH-wave-induced semi-infinite crack in a magnetoelastic orthotropic medium. *Physica Scripta*, 98(11), p.115247. (**Impact Factor 3.081**) (**IOP Publishing**) **SCI/SCIE(Q2)**. <http://dx.doi.org/10.1088/1402-4896/ad01fa>.
5. Singh, A.K., **Singh, A.K.** and Yadav, R.P., 2023. Analytical study on the propagation of semi-infinite crack due to SH-wave in pre-stressed magnetoelastic orthotropic strip. *Mechanics Based Design of Structures and Machines*, (**Impact Factor 4.364**) (**Taylor & Francis**) **SCI/SCIE(Q1)**. <http://dx.doi.org/10.1080/15397734.2023.2258196>.
6. **Singh, A.K.** Singh, A.K., and Kaushik, S., 2023. On analytical study of Griffith crack propagation in a transversely isotropic dry sandy punch pressured strip. *Physica Scripta*, (**Impact Factor 3.081**) (**IOP Publishing**) **SCI/SCIE(Q2)**. <http://dx.doi.org/10.1088/1402-4896/acef6d>.
7. Singh, A.K., **Singh, A.K.** Guha, S., and Kumar, D., 2023. Mathematical analysis on the propagation of Griffith crack in an initially stressed strip subjected to punch pressure. *Mechanics Based Design of Structures and Machines*, pp.1-19. (**Impact Factor 4.364**) (**Taylor & Francis**) **SCI/SCIE(Q1)**. <https://doi.org/10.1080/15397734.2023.2223614>
8. **Singh, A.K.** and Singh, A.K., 2022. Mathematical study on the propagation of Griffith crack in a dry sandy strip subjected to punch pressure. *Waves in Random and Complex Media*, pp.1-18 (**Impact Factor 4.854**) (**Taylor & Francis**) **SCI/SCIE(Q1)**. <http://dx.doi.org/10.1080/17455030.2022.2118397>.
9. Singh, A.K. and **Singh, A.K.**, 2022. Dynamic stress concentration of a smooth moving punch influenced by a shear wave in an initially stressed dry sandy layer. *Acta Mechanica*, pp.1-12. (**Impact Factor 2.698**) (**Springer**) **SCI/SCIE(Q2)**. <https://doi.org/10.1007/s00707-022-03197-4>.
10. Singh, A.K. and **Singh, A.K.**, 2022. Analysis on the propagation of crack in a functionally graded orthotropic strip under pre-stress. *Waves in Random and Complex Media*, pp.1-19. (**Impact Factor 4.854**) (**Taylor & Francis**) **SCI/SCIE(Q1)**. <https://doi.org/10.1080/17455030.2022.2048128>.
11. **Singh, A.K.**, Singh, A.K. and Yadav, R.P., 2020. Stress intensity factor of dynamic crack in double-layered dry sandy elastic medium due to shear wave under different loading conditions. *International Journal of Geomechanics*, 20(11), p.04020215. (**Impact Factor 3.815**) (**ASCE Library**) **SCI/SCIE(Q2)**. [https://doi.org/10.1061/\(ASCE\)GM.1943-5622.0001827](https://doi.org/10.1061/(ASCE)GM.1943-5622.0001827).

REVIEWER

Serving as reviewer to some SCI journals of American Society of Civil Engineers (ASCE), SAGE, Springer, Elsevier, World Scientific, Taylor & Francis etc.

MEMBERSHIPS IN SCIENTIFIC ORGANIZATIONS

1. Life member of “**Society of Applied Mathematics (SAM)**”, Department of Mathematics and Computing, Indian Institute of Technology (Indian school of Mines) Dhanbad, Jharkhand India, since March 05, 2022 [Membership ID: **LM/2021-2022/195**].
2. Life member of “**Department of Mathematics and Statistics**”, D D U Gorakhpur University Gorakhpur, Uttar Pradesh, India, since April 07, 2021.
3. Annual member of “**The Mathematical Society BHU**”, Department of Mathematics, Banaras Hindu University, Varansi, India, from February 06, 2021 to February 05, 2022 [Receipt No.: **402557**].
4. Life member of “**The Indian Mathematical Society (IMS)**”, Pune, Maharashtra, India, since December 10, 2019 [Membership ID: **L/2019/102**].
5. Life member of “**The Indian Science Congress Association (ISCA)**”, Kolkata, West Bengal, India, since December 08, 2019 [Membership ID.:**L39647**].
6. Life member of “**Global Initiative of Academic Networks (GIAN)**”, IIT Kharagpur, West Bengal, India, since November 07, 2019 [Membership ID: **2015150295299**].

CONFERENCES/ WORKSHOPS/ WEBINARS

1. **Delivered an Invited Talk** on “**Analysis of dynamic semi-infinite crack due to propagation of shear wave in elastic medium consisting of dry sandy properties**” in Workshop on “*Recent Development of Mathematical Sciences on Biological and Dynamics Systems with fuzzy and fractional environment*” organised by the Department of Mathematics, Mahadevananda Mahavidyalaya, Monirampore, Kolkata, North Barrackpur, West Bengal, India, 19-29th June 2024.
2. Attended “**International Conference on Mathematical Science and its Applications to Artificial Intelligence (ICMSIAAI-2024)**” organized by **Department of Mathematics, SRM University, Sonapat, Haryana, India**, during January 17-19, 2024, wherein I presented a paper entitled “Effect of anisotropy on the propagation of the SH-wave influenced by crack in an orthotropic medium”.
3. Attended “**International Conference on Mathematical Science and its Applications to Artificial Intelligence (ICMSIAAI-2024)**” organized by **Department of Mathematics, SRM University, Sonapat, Haryana, India**, during January 17-19, 2024, wherein I presented a paper entitled “Effect of anisotropy on the propagation of the SH-wave influenced by crack in an orthotropic medium”.
4. Participated in **Seven days online workshop on “Building Internet Scale Applications (BISA-2023)”** organized by **Department of Mathematics and Computing, IIT(ISM) Dhanbad, Jharkhand, India**, during December 16-22, 2023.
5. Participated in **Faculty Development Program on “Frontiers in Multidisciplinary Research”** organized by **School of Basic Sciences, Galgotias University, Greater Noida, India**, during August 16-22, 2023.
6. Participated in **Faculty Development Program on “Frontiers in Multidisciplinary Research”** organized by **School of Basic Sciences, Galgotias University, Greater Noida, India**, during August 16-22, 2023.
7. Participated in **National Level Short-Term Training Programme** entitled “**Statistical Machine Learning**” organized by **ITER, Siksha 'O' Anusandhan University, Bhubaneswar, India**, during August 07-11, 2023.
8. Attended “**Faculty Development Program on “Interdisciplinary Aspects of Life Sciences for Translational Research: Opportunity and Challenges”** organized by **Division of Life Sciences, Department of Biosciences, SBAS, Galgotias University, Greater Noida, India**, during January 24-28, 2023.
9. Attended “**International Conference on Recent Trends in Mathematical and Computational Sciences (ICRTMCS-2022)**” organized by **Department of Mathematics and Statistics, Amity University, Kolkata, India**,

during July 28-29, 2022, wherein I presented a paper entitled “Analytical study of smooth moving punch influenced by shear wave in an initially stressed dry sandy layer.”

10. Participated in **Global Initiative of Academic Networks (GIAN) Online Course** entitled “**GLOBAL SEISMOLOGY**” organized by **Department of Applied Geophysics, IIT(ISM), Dhanbad, Jharkhand, India**, during May 09-18, 2022.
11. Attended “**27th International Conference of International Academy of Physical Sciences (CONIAPS XXVII)**” on “**Recent Advances in Solid Mechanics and Seismology**” organized by **Department of Mathematics Kurukshetra University, Kurukshetra -136119 Haryana, INDIA** in association with **International Academy of Physical Sciences, Prayagraj, India**, during October 26-28, 2021, wherein, I presented a paper entitled “Crack propagation in two dissimilar dry sandy elastic layers influenced by shear wave”.
12. Attended “**International Conference on Mathematical Modeling and Simulation in Physical Sciences (MMSPS-2021)**” Jointly organized by **Department of Applied Mathematics & Humanities and Department of Applied Physics, SVNIT Surat, India**, during April 17-18, 2021, wherein I presented a paper entitled “Propagation of dynamic crack in double layered dry sandy elastic medium due to shear wave under non-harmonic loading”.
13. Attended “**36th Annual National Conference on New Challenges Emerging in Mathematical sciences (NCEMS-2021)**” organized by **Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi, India**, during February 06-07, 2021, wherein I presented a paper entitled “Stress intensity factor of dynamic crack in double-layered dry sandy elastic medium due to shear wave under different loading conditions”.
14. Attended one day **National Webinar** on “**Numerical and Scientific Computing**” organized by **Department of Mathematics and Statistics, Manipal University, Jaipur, India**, on July 28, 2020.
15. Attended one day **National Webinar** on “**Numerical and Scientific Computing**” organized by **Department of Mathematics and Statistics, Manipal University, Jaipur, India**, on July 01, 2020.
16. Attended one day **National Webinar** on “**Mathematical Models on Transmitting behavior of Covid-19**” organized by **Department of Mathematics and Statistics, Manipal University, Jaipur, India**, on June 23, 2020.
17. Attended one day **National Webinar** on “**Fluid Dynamics**” organized by **Department of Mathematics and Statistics, Manipal University, Jaipur, India**, on June 23, 2020.
18. Participated in **ATM School Workshop** entitled “**Annual Foundation School (AFS-1)**” organized by **Department of Mathematics, IISER, Bhopal, Madhya Pradesh, India**, during December 03-29, 2018.
19. Participated in **ATM School Workshop** entitled “**Continuum Mechanics: Principles and Applications**” organized by **Department of Mathematics, Panjab University, Chandigarh, India**, during November 19-24, 2018.
20. Participated in the **National Training Programme** on “**Research Methodology**” organized by **IIT (ISM) Dhanbad**, during December 18-24, 2017.
21. Participated in **National Conference** on “**Recent Trends in Mathematics and Statistics (CORTMAS-2013)**” organized by **Department of Mathematics and Statistics, Deen Dayal Upadhyay Gorakhpur University, Gorakhpur, India**, during July 27-28, 2013.