

RESUME

Dr. Priyanka Kumari

Assistant Professor (Under TEQIP III)
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Objective: - To contribute through dedication, hard work and sincerity towards scientific growth of the institute, where in I get the opportunity employing my academic, scientific and technical knowledge.

Qualification:

- 2013 - Ph. D. awarded in “**Study of Analytical and Numerical Approach on Solute Transport Modeling.**” Research Supervisor- Dr. M. K. Singh, Professor, Department of Mathematics and Computing, IIT-ISM, Dhanbad, Jharkhand.
- 2010 - M. Phil in Applied Mathematics, IIT-ISM, Dhanbad, Jharkhand.
- 2009-M.Sc in Mathematics & Computing, IIT-ISM, Dhanbad, Jharkhand.
- 2007-B.Sc with Mathematics Hons. Vinoba Bhave University, Hazaribagh, Jharkhand.

Teaching Experience

- Duration -08 Years
- Jan 2018 – present, Assistant Professor (Under TEQIP-III), Department of Mathematics, BIT Sindri, Dhanbad, Jharkhand.
- Feb 2015 - Dec 2017, Assistant Professor, Department of Mathematics, KKCEM, Govindpur, Dhanbad

Mathematical skills:-

Numerical Analysis, Ordinary Differential Equation, Partial Differential Equation, Probability and Statistics, Differential Calculus, Integral Calculus, Groundwater Modeling, Hydrodynamics.

Achievement:-

- **Best Paper Award**, 27th Annual Conference of the Mathematical Society, 26-27 Nov., 2011, B. B. A. U., Lucknow, India.

Research Project Completed/Ongoing:

- Minor Research Project

- Funding Agency: NPIU/TEQIP-III
- Title of the Project: “Mathematical Study of Non-reactive Solute Transport in Multilayer porous media
- Duration of the project: 01 year (July, 2019-August 2020)
- Status: Submitted
- Project value: 8.06 Lakhs

SCI/SCOPUS Papers Published

1. Singh, M. K., Mahato N K & **Kumari, P (2011)**, Comparative study of analytical solutions for time-dependent solute transport along unsteady groundwater flow in semi-infinite aquifer, *Int. J. Geosciences, (Scientific Research)*, Vol. 2,No.4, Nov., 2011, pp 457-467,DOI:10.4236/ijg.2011.24048. Impact factor-0.93
2. Singh, M. K., Singh V. P., **Kumari, P.** & P Das (2012), Analytical and Numerical Approaches to Horizontal Non-reactive Solute Dispersion in a Semi-infinite Aquifer., *J. Groundwater Research, AGGS alias IGWC*, Vol.1(1), Dec., 2012, pp42-51.
3. Singh, M. K. and **Kumari P (2012)**, One-dimensional solute dispersion with time dependent source concentration along transient flow: An analytical/numerical approach. *Groundwater Research Series 5(IV) IGWC-2012*, Dec.18-21, pp 351- 361
4. Singh, M. K. and **Kumari P (2012)**, A Comparative Study of Advection-dispersion Equation in One-dimensional Semi-infinite Aquifer. *International Conference of ICMSDPA- Oct. 08-12, 2012, IEEE Explore*, pp 143-148.
5. Singh, M. K., **Kumari, P** and Mahato, N K (2013), Two-dimensional solute transport in finite homogeneous porous formations. *International Journal of Geology, Earth and Environmental Sciences*. Vol. 3(2), pp35-48.
6. Singh, M. K. and **Kumari, P(2014)** Contaminant concentration prediction along unsteady groundwater flow. Book Chapter of *Modelling and Simulation of Diffusive Processes, Series: Simulation Foundations, Methods and Applications, Springer, XII*, pp257-276. ISBN 978-3-319-05656-2.
7. Singh, M. K., Chatterjee, A and **Kumari, P (2017)** Mathematical modeling of onedimensional advection dispersion equation in groundwater contamination using different velocity and dispersion for different zones, *Series: Lecture Notes in Mechanical Engineering, (Springer)*, 585-592, DOI:10.1007/978-981-10-5329- 0 (Scopus Index).
8. Thakur C K, **Kumari P**, Singh M K and Singh V P (2020), Solute transport model equation for mobile phase in semi-infinite porous media, *Groundwater for Sustainable Development (Elsevier)*, Vol. 11, 100411, Impact Factor-1.07 (SCOPUS Index).
9. Singh P, **Kumari P** and Jaiswal D K (2022) An Analytical model with off diagonal impact on Solute Transport in Two-dimensional Homogeneous Porous Media with Dirichlet and Cauchy type boundary conditions. *GANITA*, Vol. 72(1), 2022, pp.299-309.

Research Paper presented in National/ International Conferences

1. Singh, M. K. and **Kumari, P.**, “Analytical Solution of Contaminant Transport in Two-dimensional Homogeneous Semi-infinite Aquifer”, National Conference on Sustainable Development of Groundwater Resources in Industrial Regions (SDGRIR), 22-23 Mar., 2012, ISM Dhanbad, India.
2. Singh, M. K. and **Kumari, P.**, “One-dimensional Solute Transport Modeling in Homogeneous Porous Formations: Analytical and Numerical Approach”, 27th Annual Conference of the Mathematical Society, 26-27 Nov., 2011, B. B. A. U., Lucknow, India (BEST PAPER AWARD).
3. Singh, M. K., **Kumari, P.** and Mahato, N. K., “Two-Dimensional Non-reactive Solute Transport along Unsteady Groundwater Flow in Finite Aquifer”, 13th International Conference of the International Academy of Physical Sciences (CONIAPS-XIII), 14-16 June, 2011, UPES, Dehradun, India.
4. Singh, M. K. and **Kumari, P.**, “A Comparative Study of Advection-dispersion Equation in One-dimensional Semi-infinite Aquifer.” International Conference on Modeling and Simulation of Diffusive Process and Application (ICMSDPA), 9-12 October, 2012, BHU, Varanasi, India.
5. **Kumari, P.** and Singh, M. K., “Solute Transport Modeling in Homogeneous aquifer with Moving Boundary Condition.” Recent Advances in Mathematics and Its Application (RAMA), 14-16 February, 2013, ISM, Dhanbad, Jharkhand, India.
6. **Kumari P.** “An Analytical model for solute transport in two-dimensional homogeneous and anisotropic porous media with time-dependent velocity field. 68th Annual Conference of Bharat Ganita Parishad, November 17-18, 2021, University of Lucknow, Lucknow, U. P., India.

Workshop Attended

1. National Workshop Cum Training Program on Computing Techniques and Applications (NWCTP-CTA), 01-07 July, 2012, BHU, Varanasi, U. P.
2. Short Term Training Program on Groundwater Contamination and Modeling Approach, 18-20 Dec., 2016, IIT-ISM Dhanbad.
3. Faculty Induction Workshop under TEQIP III, 06-10 February, 2018, IIT Kharagpur.
4. Workshop on Outcome Based Education and Accreditation, 16-17 March, 2018, BIT Sindri, Jharkhand.
5. Workshop on Numerical and Computational Methods for fluid-solid Interaction Problems, 27-28 September, 2018, IIT-ISM Dhanbad.

6. Training Program on Advanced Pedagogy & Digital Tool, 10-14 June, 2019, IIT Kharagpur, West Bengal.
7. Faculty Development Programme on “Natural Language Processing”, 06-10 January 2020, BIT Sindri, Dhanbad, Jharkhand.
8. Online Faculty Development Program on “Excellence in Communication.” 25 February - 04 March 2021. IIM Bodh Gaya, Jharkhand.

Online Courses Completed

Two Week Course on Digital Transformation in Teaching Learning Process, 16th -30th March, 2020. Organized by IIT Bombay.

Professional Membership

- Society of Applied Mathematics (SAM), IIT(ISM), Dhanbad
- Association of Global Groundwater Scientists (AGGS), Coimbatore.
- International Association of Hydrological Sciences (IAHS), U.K.