

## List of Publication

### International Journal/Conference

1. Kumar N., **Singh M K** & Yadav R. R., Two dimensional pollutant dispersion along unsteady horizontal flow in shallow aquifer, *Modeling, Measurement & Control A.M.S.E.*, Vol. 63, No. 1,2, pp. 49-56, **1997**
2. Kumar N., **Singh M K** & Yadav R. R., Unsteady horizontal dispersion through semi-infinite shallow aquifer, *Hydrological Science & Technology*, Vol. 13, No. 1-4, pp. 25-32, **1997**
3. Kumar N. & **Singh M K.**, Solute dispersion along unsteady groundwater flow in a semi-infinite aquifer, *Hydrology & Earth System Sciences (HESS)*, Vol. 2(1), pp. 93-100, **1998**
4. **Singh M K**, Mahato N K& Singh P, Longitudinal dispersion with time dependent source concentration in semi-infinite aquifer, *J. Earth System Science(JESS)*, Springer, Vol.117,no.6,pp945-949,**2008**
5. **Singh M K** & Singh Gurdeep, Trace elements concentration levels from ash pond in semi-infinite aquifer, *Proceedings of International conference on Water, Environment, Energy and Society (WEES)*, NASC Complex, New Delhi , Vol. III, pp 1105-1109,12-16 Jan., **2009**
6. **Singh M K**, Singh V P, Singh P and Shukla D, Analytical solution for conservative solute transport in one dimensional homogeneous porous formations with time dependent velocity, *J. Engineering Mechanics, ASCE*, Vol.135, No.9, pp.1015-1021, Sept., **2009**, DOI: 10.1061/(ASCE)EM.1943-7889.0000018
7. **Singh M K**, Singh P & Singh V P, Solute Transport Model for One-dimensional Homogeneous Porous formations with Time Dependent Point-Source Concentration, *Advances of Theoretical & Applied Mechanics(ATAM)*, Vol.2,no.3,pp.143-157, **2009**
8. **Singh M K**, Singh P & Singh V P, Analytical Solution for Solute Transport along and against Time Dependent Source Concentration in Homogeneous finite Aquifer, *Advances of Theoretical & Applied Mechanics(ATAM)*, Vol.3,no.3,pp.99-119, Jan. **2010**
9. **Singh M K**, Singh P & Singh V P, Two Dimensional Solute Dispersion with Time Dependent Source Concentration in finite Aquifer, *J. Engineering Mechanics, (ASCE)*, Vol.136, No.10, pp.1309-1315, Oct., **2010**, DOI: 10.1061/(ASCE)EM.1943-7889.0000177
10. Jaiswal, D.K. and Kumar, A., Kumar, N., & **Singh, M. K.** Solute Transport along Temporally and Spatially Dependent flows through Horizontal Semi-infinite Media: Dispersion being proportional to square of velocity, *Journal of Hydrologic Engineering (ASCE)*, Vol.16 No.3, pp228-238, **March 1, 2011**, DOI: 10.1061/(ASCE)HE.1943-5584.0000312
11. **Singh M K**, Mahato N K& Ahamad S Solute Transport Model with Transient Groundwater Flow in Homogeneous Semi-infinite Aquifer: Analytical Solution, *Proceedings of International Seminar on Recent Advances in Geosciences*, ISM, Dhanbad, 11-13 Jan., **2011**, pp285-289.
12. **Singh M K**, Mahato N K & Singh, P, Longitudinal Dispersion with Constant Source Concentration along Unsteady Groundwater Flow in Finite Aquifer: Analytical Solution with Pulse Type Boundary Condition, *Natural Science (Scientific*

- Research*), Vol. 3, No.3 **March, 2011**,pp186-192, DOI: 10.4236/ns.2011.33024
13. **Singh M K**, Mahato N K, Ahamad S, Singh, V P & Dragoni, W, Longitudinal Dispersion along Transient Groundwater Flow in a Finite Aquifer, *Proceedings of IGWC-2011*, Sept.,25-29, Madurai(Accepted).
  14. **Singh M K**, Mahato N K& Kumari, P, 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.
  15. **Singh M K**, Kumari P & Mahato N K Two-Dimensional Non-reactive Solute Transport Along Unsteady Groundwater Flow In Finite Aquifer, *Proceedings of International Conference on CONIAPS-XIII*, 14-16 June, **2011** at UPES Dehradun (Accepted).
  16. **Singh M K**, Ahamad S & Singh V P, Analytical Solution for One-dimensional Solute Dispersion with Time-dependent Source Concentration along Uniform Groundwater Flow in a Semi-infinite Aquifer, *J. Engineering Mechanics (ASCE)*, 14<sup>th</sup>Dec., **2011**(Accepted).
  17. **Singh M K**, Mahato N K & Singh V P, Analytical Approach to Solute Dispersion along and against Transient Groundwater flow in a Homogeneous Finite Aquifer: Pulse Type Boundary Conditions, *Proceeding of International Conference Earth Space-April, 15-18, 2012, ASCE, Pasadena, California (Accepted)*.

#### **National Journal/Conference**

1. Kumar N. & **Singh M K.**, Concentration distribution along unsteady groundwater flow, *Indian J. of Engg. & Material Sciences*, Vol. 3, pp 258-261, **1996**
2. **Singh M K** & Yadav R. R., Solute dispersion along and against sinusoidally varying unsteady velocity through finite aquifers-Analytical/Numerical solutions, *J. of Scientific Research*, Vol. 50, pp. 95-114, **2000**
3. Kumar N. & **Singh M K.**, Horizontal solute dispersion in unsteady flow through homogeneous finite aquifer, *Indian J. of Engg. & Material Sciences*, Vol. 9, Oct. **2002**, pp. 339-343
4. Choudhary S K & **Singh M K**, Analysis of Fourier series in contact phenomenon of metal semi-conductor devices, *Proceedings of the Mathematical Society*, B.H.U., Varanasi, Vo1.21, pp37-49, **2005**
5. **Singh M K** & Mahato N K, Analytical solution for horizontal dispersion along unsteady groundwater flow in semi-infinite aquifer, *Proceedings of The Mathematical Society*, B. H.U., Varanasi, Vo1.22, pp 25-31,**2006**
6. **Singh M K**, Singh P & Mahato N K, Solute transport model with time dependent source concentration in aquifer, *Proceedings of National Seminar on Modern Trends in Geophysical Sciences and Techniques*, ISMU, Dhanbad, 12-14 Nov., pp 215-218, **2007**
7. **Singh M K** & Singh P, Solute transport model with constant source concentration against unsteady groundwater flow in finite aquifer, *Proceedings of the Mathematical Society*, B. H.U., Varanasi, Vo1.23, pp45-52, **2007**
8. Singh P & **Singh M K**, Analytical solution for conservative solute transport in two dimensional porous formations with constant source input concentration, *Proceedings of the Mathematical Society*, B. H.U., Varanasi, Vo1.24,pp 129-138, **2008**

9. **Singh M K**, Kumar R, Singh P & Singh Gurdeep, Distribution of trace elements concentration levels from ash ponds, *Proceedings of National Seminar on Recent Advances in Information Technology (RAIT-2009)*, ISMU, pp441-447, 6-7 Feb., **2009**.
10. **Singh M K**, Role of Mathematics in Context of Indian Education System, *Proceedings of BHU Alumni Association, Dhanbad-Asansol Chapter*, **6<sup>th</sup> Feb., 2011**.

**Book Published:**

1. Singh P, **Singh M K** & Singh V P (**28<sup>th</sup> Dec., 2010**) *Contaminant Transport in Unsteady Groundwater Flow: Analytical Solutions*, LAP LAMBERT Academic Publishing.

**Invited Talk:**

1. **Delivered on the topic** “Analytical Approach of unsteady groundwater flow modeling” during the 2<sup>nd</sup> National Conference on Recent Advances on Solid State Materials and Devices organized by Sanjay Institute of Engineering & Management Sept. **6-7, 2008**, Mathura (U.P.).
2. **Delivered on the topic** “Analytical Approach of solute transport modeling in homogeneous porous formation” during the 2<sup>nd</sup> National Symposium on Differential Geometry and Mathematical Modeling on Bio-Sciences organized by Department of Mathematics and Astronomy, Lucknow University, Lucknow under UGC-SAP Programme, **Jan. 9-10, 2010**, Lucknow (U.P.).

**Training Programme Attended:**

1. The **International Training Programme** on “Introduction to Groundwater Flow and Transport Modeling using MODFLOW, MODPATH, MT3DMS and SEAWAT with model analysis using PEST and UCODE” during **Sept.1-4, 2009** organized by International Association of Hydrological Sciences (IAHS) and International Association of Hydrogeologists (IAH) at NGRI Hyderabad.
2. **DST Training Programme** on “Ethics and Values in Science” during **Dec.12-16, 2011** organized by Humanities and Social Science Department, Indian School of Mines, Dhanbad.

**Research Paper Presented in National/International Conferences:**

1. **Singh M K** & Kumar N., Solute dispersion along unsteady groundwater flow in a semi-infinite aquifer, 42nd Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM), **Dec.28-31, 1997**, South Gujarat University, Surat.
2. **Singh M K** & Kumar N., Horizontal dispersion against unsteady groundwater flow in finite shallow aquifer. International Conference on Recent Developments in Mathematical Analysis with application to Industrial Mathematics, **March 2-5, 1998**, B.H. U., Varanasi
3. **Singh M K.**, One-dimensional dispersion against unsteady groundwater flow in finite aquifer, 44<sup>th</sup> Congress of ISTAM, **Dec.1999**, R.E.C. Warangal.

4. **Singh M K** & Yadav R R, Solute dispersion along and against sinusoidally varying unsteady velocity through finite aquifers-Analytical/Numerical, 18<sup>th</sup> Annual Conference of the Mathematical Society, **Dec. 29-30, 2002**, B.H.U., Varanasi
5. Choudhary S K and **Singh M K**, Statistical analysis of Colon Exhaustion as a result of Immune deviation.,20th Engineering Congress, **Dec. 15-18,2005**,Kolkata
6. Choudhary S K and **Singh M K.**, Genetic information of RNAi in therapeutics versus the characteristics of energy diagrams of P N Junction diode, 20<sup>th</sup> Engineering Congress, **Dec. 15-18, 2005**, Kolkata
7. **Singh M K** & Kumar N., Concentration distribution of pollutants against unsteady groundwater flow in aquifer, Conference on Computational Methods in Continuum Mechanics (CMCM), **Jan.11-12, 2006**, College of Engg. Guindy, Chennai (INDIA).
8. **Singh M K.**, Concentration distribution of pollutants along unsteady horizontal flow through semi-infinite aquifer with continuous injection. 21<sup>st</sup> Annual Conference of the Mathematical Society, **Jan.23-24, 2006**, B.H.U., Varanasi
9. Choudhary S K and **Singh M K.**, Analysis of Fourier series in contact phenomenon of metal semi-conductor devices., 21<sup>st</sup> Annual Conference of the Mathematical Society, **Jan.23-24, 2006**, B.H.U., Varanasi.
10. **Singh M K** & Mahato N K, One-dimensional solute dispersion along unsteady groundwater flow in semi-infinite aquifer, National Seminar on Recent Advances in Theoretical & Applied Seismology, **March 20-21, 2006**, Department of Applied Mathematics, I.S.M., Dhanbad.
11. **Singh M K** & Mahato N K, Analytical solution for horizontal dispersion along unsteady groundwater flow in semi-infinite aquifer, 22<sup>nd</sup> Annual Conference of the Mathematical Society, **Dec.15-16, 2006**, B.H.U., Varanasi.
12. **Singh M K**, Concentration distribution behaviour of trace elements in semi-infinite aquifer, International Conference on Mathematical Modelling and Computer Simulation(ICMMACS), **Dec.12-15,2006**, LNMIIT, Jaipur.
13. **Singh M K** & Mahato N K, Contaminant transport analysis along unsteady groundwater flow in aquifer, National Seminar on Recent Advances in Theoretical & Applied Seismology, **March 21-22, 2007**, Department of Applied Mathematics, I.S.M University, Dhanbad.
14. **Singh M K**, Singh P & Mahato N K, Solute transport model with time dependent source concentration in aquifer, National Seminar on Modern Trends in Geophysical Sciences and Techniques, **12-14 Nov., 2007**, Department of Applied Geophysics, I.S.M University., Dhanbad.
15. **Singh M K** & Singh P, Solute transport model with constant source concentration against unsteady groundwater flow in finite aquifer, 23<sup>rd</sup> Annual Conference of the Mathematical Society, **Dec.29-30, 2007**, B.H.U., Varanasi.
16. Singh P & **Singh M K**, Analytical solution for conservative solute transport in two dimensional porous formations with constant source input concentration, 24<sup>th</sup> Annual Conference of the Mathematical Society, **Dec.30-31, 2008**, B.H.U., Varanasi.
17. **Singh M K** & Singh Gurdeep, Trace elements concentration levels from ash pond in semi-infinite aquifer, *International conference on Water, Environment, Energy and Society (WEES)*, **Jan.12-16, 2009**, NASC Complex, New Delhi.
18. **Singh M K**, Kumar R, Singh P & Singh Gurdeep, Distribution of trace elements concentration levels from ash ponds, *National Seminar on Recent Advances in Information Technology (RAIT-2009)*, **Feb. 6-7, 2009**, Department of computer

- Science Engineering, ISM University, Dhanbad.
19. **Singh M K** & Garai A K, Concentration distribution behaviour of contaminants through the wall of the cylinder: Analytical Solution , National Seminar on Recent Advances in Theoretical & Applied Seismology, **March 27-28, 2009**, Department of Applied Mathematics, I.S.M University, Dhanbad.
  20. **Singh M K** & Singh P, Analytical solution for conservative solute transport in two dimensional porous formations with time dependent source input concentration, National Seminar on Recent Advances in Theoretical & Applied Seismology, **March 27-28, 2009**, Department of Applied Mathematics, I.S.M University, Dhanbad.
  21. **Singh M K**, Singh P & Kumar N, Longitudinal dispersion with constant source concentration along unsteady groundwater flow in finite aquifer, *Joint IAHS & IAH International convention Water: A Vital Resource Under Stress-How Science Can Help*, Hyderabad, **6-12 Sept., 2009**.
  22. **Singh M K**, Mahato, N K & Ahamad, S. Solute Transport Modeling of Time-Dependent Solute Concentration with Mixed type Boundary Condition: Analytical Solution, 26<sup>th</sup> Annual Conference of the Mathematical Society, **Nov.28-29, 2010**, B.H.U., Varanasi.
  23. **Singh M K**, Mahato N K & Ahamad S Solute Transport Model with Transient Groundwater Flow in Homogeneous Semi-infinite Aquifer: Analytical Solution, *Proceedings of International Seminar on Recent Advances in Geosciences*, ISM, Dhanbad, 11-13 Jan., **2011**
  24. **Singh M K**, Kumari P & Das P. Analytical and Numerical Approach of One-dimensional Solute dispersion along Unsteady Groundwater Flow in Semi-infinite Aquifer, *Proceedings of International Conference on CONIAPS-XIII*, , 14-16 June, **2011 at UPES Dehradun**.
  25. **Singh M K**, Kumari P & Mahato N K Two-Dimensional Non-reactive Solute Transport Along Unsteady Groundwater Flow In Finite Aquifer, *Proceedings of International Conference on CONIAPS-XIII*, , 14-16 June, **2011 at UPES Dehradun**.
  26. **Singh M K**, Mahato N K, Ahamad S , Singh, V P & Dragoni, W, Longitudinal Dispersion along Transient Groundwater Flow in a Finite Aquifer, *Proceedings of IGWC-2011*, Sept.,25-29, **2011**, Madurai.
  27. **Singh M K** & Kumari P, One-dimensional Solute Transport Modeling in Homogeneous Porous Formations: Analytical and Numerical Approach, 27<sup>th</sup> Annual Conference of the Mathematical Society, **Nov.26-27, 2011**, B. A.U., Lucknow, **BEST PAPER AWARD**.

#### **Seminar/Workshop Attended:**

1. Review of Engineering Degree Curriculum of Mathematics, Organized by National Institute of Technical Teachers' Training and Research (NITTTR) & West Bengal University of Technology(WBUT), **July 26-30, 2004**, Kolkata.
2. Conference on Higher Technical Education, Organized by Department of Higher Education, Govt. of West Bengal, **Feb., 15-16, 2005**, Kolkata.
3. National Seminar on Condition Monitoring Overview & Advanced Techniques (COMOAT), Organized by Department of Mechanical Engineering & Mining Machinery Engineering, ISM University , **15-16 Sept., 2006**, Dhanbad.
4. National Workshop on e-Governance Awareness and Information Technology,

- Ministry of Communication & Information Technology, Government of India  
Organized by Department of Management Studies, ISM University , **1-2 Sept., 2007**,  
Dhanbad.
5. National Seminar on Modern Trends in Geophysical Sciences and Techniques (MTGST), Organized by Department of Applied Geophysics, ISM University, **12<sup>th</sup> - 14<sup>th</sup> Nov., 2007**, Dhanbad.
  6. 2<sup>nd</sup> National Conference on Recent Advances on Solid state Materials and Devices organized by Sanjay Institute of Engineering & Management, **6-7<sup>th</sup> Sept., 2008**, Mathura (U.P.).
  7. International conference on Water, Environment, Energy and Society (WEES),organized by NIH Roorkee, Ministry of Water Resources, Government of India, **Jan.12-16, 2009**, NASC Complex, New Delhi.
  8. National Seminar on Recent Advances in Information Technology (RAIT-2009), organized by Department of Computer Science Engineering, ISM University, **Feb., 6 -7, 2009**, Dhanbad.
  9. National Seminar on Recent Advances in Theoretical & Applied Seismology, organized by Department of Applied Mathematics, I.S.M University, **March 27-28, 2009**, Dhanbad.
  10. Ninth International Mine Ventilation Congress-2009, organized by Department of Mining Engineering, ISM, Dhanbad at New Delhi, **Nov.10-13,2009**.
  11. 25<sup>th</sup> Annual Conference of the Mathematical Society, **Dec.22-24, 2009**, B.H.U., Varanasi.
  12. 2<sup>nd</sup> National Symposium on Differential Geometry and Mathematical Modeling on Bio-Sciences organized by Department of Mathematics and Astronomy, Lucknow University, Lucknow under UGC-SAP Programme, **Jan. 9-10, 2010**, Lucknow (U.P.).
  13. 26<sup>th</sup>Annual Conference of the Mathematical Society, **Nov.28-29, 2010**, B.H.U., Varanasi.
  14. *International Seminar on Recent Advances in Geosciences*, Organized by Department of Applied Geophysics, ISM, Dhanbad, 11-13 Jan., **2011**
  15. *International Conference on CONIAPS-XIII*, 14-16 June, **2011 at UPES Dehradun**.
  16. International Ground Water Congress - 2011, Sept.27-30, 2011 at Yadava College, Madurai.