

Profile

- **Name:** Dr. Triptimoni Borah
- **Father's Name:** Late Bipin Ch. Borah
- **Permanent Add:** House No. 10, Mahanagar Path
Lalmati, Borsajai, Guwahati-29
- **Email ID:** btriptimoni@gmail.com, triptimoni.ce@aec.ac.in



Fellow Member of Indian Geotechnical Society (IGS)

Fellow Member of Indian Road Congress (IRC)

- **Current Research Interest:**
 - **Surface and Groundwater Quality Assessment,**
 - **Water Resources System,**
 - **Artificial Neural Network and Optimization**
- **Email:** btriptimoni@gmail.com, triptimoni.ce@aec.ac.in

EDUCATION

PHD.: Civil Engineering (Water Resources Engineering), [Indian Institute of Technology Guwahati](#), India, 2015.

Thesis: Development of Efficient Pollution Source Identification Model Using ANN-GMS-GA Based Simulation-Optimization Approach.

M.E.: Civil Engineering (Water Resources and Environmental Engineering), [Indian Institute of Technology Guwahati](#), India, 2006

Dissertation: Modeling Approach to Sediment Concentration and Key Parameters in a Part of the Brahmaputra River, Assam, India

B.E.: Civil Engineering, [Jorhat Engineering College](#), Jorhat, Assam, India, 1992.

EXPERIENCE

- **2019 to present:** Professor, Department of Civil Engineering, Assam Engineering College, Assam, India.
- **2016 to 2019:** Associate Professor, Department of Civil Engineering, Assam Engineering College, Assam, India.
- **2014 to 2016 (Aug):** Assistant Professor, [Department of Civil Engineering](#), Assam Engineering College, Assam, India.
- **2006 to 2014:** Assistant Professor, [Department of Civil Engineering](#), Jorhat Engineering College, Jorhat, Assam, India.

- **2003 to 2006:** Lecturer (Sr. Scale), Department of Civil Engineering, [Jorhat](#) Engineering College, Jorhat, Assam, India.
- **1994 to 2003:** Lecturer, Department of Civil Engineering, [Jorhat](#) Engineering College, Jorhat, Assam, India.

THESIS GUIDANCE (PG Course)

1. Mamata Das (2015), Virus Transport In One Dimensional Unsaturated Zone In A Layered Soil Profile Using Hydrus 1-D And Matlab
2. Gyanashree Bora (2015), Solution of Aquifer Simulation Process Problem by Using Gms and Potential Sources of Groundwater Contamination and its Remediation
3. Susheta Chanda (2015), Development of Rainfall-Runoff Model Using Arcswat and Artificial Neural Network in The Subansiri Basin, Assam
4. Karishma Chetia (2016), Simulation of Flow & Transport processes of Groundwater aquifer using FEMWATER
5. Rubia Sultana Choudhury (2017), Water Quality and Flow Analysis of River Brahmaputra in Urban Stretch of Guwahati Using HEC-RAS”
6. Pranami Borah (2017), Comparison of Linear Regression and Non Linear Regression for Prediction Of Rainfall-Runoff Model At Brahmaputra River Basin At Pandu Location, Assam, India"
7. Banakshi Bora (2017), Analysis of Soil-Hydraulic Properties in Unsaturated Soil.
8. Bhaswati Sharma (2018) COMPARISION OF SOLUTE TRANSPORT IN VADOSE ZONE BETWEEN OPEN DUMPING SITE AND CONTROL SITE DUE TO TEMPORAL VARIATION OF RAINFALL
9. Hadi Ahmed (2018) “Design of an efficient ground water recharge system of ponds using Hydrus 1 D
10. Chandan Jyoti Saikia (2019) A STUDY ON THE IMPACT OF WATER POLLUTION DUE TO DUMPING OF WASTE IN DEEPOR BEEL
11. Sikha kataki (2019) MODFLOW, MODPATH AND MT3DMS BASED SIMULATION OF GROUNDWATER FLOW AND LEACHATE TRANSPORT FROM LANDFILL
12. Lakshana Kataki (2021) APPLICATION OF MULTIVARIATE STATISTICAL ANALYSIS IN ASSESSING SURFACE WATER QUALITY IN DEEPOR BEEL AREA, GUWAHATI, ASSAM

13. Dibyajyoti Kalita (2021) MULTIVARIATE DATA ANALYSIS OF GROUNDWATER AND DEVELOPMENT OF SOLUTE USING HYDRUS-1D IN DEEPOR BEEL AREA TRANSPORT USING HYDRUS-1D IN DEEPOR BEEL AREA.
14. KAUSTUV BHUYAN (2022) ADVANCED SPATIAL ANALYSIS AND HEALTH RISK ASSESSMENT OF GROUNDWATER ARSENIC CONTAMINATION IN NAGAON AND DARRANG DISTRICTS, ASSAM: AN INTEGRATED GIS AND HYDROLOGICAL MODELLING APPROACH
- 15.

List of publications

Journals Referred Publications

1. “STATISTICAL ASSESSMENT OF WATER QUALITY PARAMETERS FOR POLLUTION SOURCE IDENTIFICATION IN DEEPOR BEEL AREA, GUWAHATI, ASSAM” International Journal for Multidisciplinary Research (IJFMR), Volume 6, Issue 4 (July-August 2024), <https://doi.org/10.36948/ijfmr.2024.v06i04.25839> ;
2. Gyanashree Bora and Triptimoni Borah (2024), “Arsenic contamination of groundwater: Review on arsenic contamination of Assam”, World Journal of Advanced Engineering Technology and Sciences, 2024, 11(02), 238–244. DOI: <https://doi.org/10.30574/wjaets.2024.11.2.0085>
3. Triptimoni Borah and Manipuspak Hazarika (2023), ” A study of the water quality parameter and its impact using HYDRUS-1D in Deepor Beel, Guwahati, Assam” World Journal of Advanced Engineering Technology and Sciences, 2023, 09(02), 200–205.

Article DOI: <https://doi.org/10.30574/wjaets.2023.9.2.0148>

4. Karishma Chetia and Triptimoni Borah (2018), “Simulation of Flow & Transport processes of Groundwater aquifer using FEMWATER” International Research Journal of Engineering and Technology (IRJET) Volume 5, Issue 5, May 2018 S.NO:300
5. Gyanashree Bora and Triptimoni Borah (2017), “Simulation of Degradation Processes of Volatile Organic Compounds by Using GMS” Water Research and Management, Vol. 7, No. 1 (2017) 25-30.

6. Borah Triptimoni, and Bhattacharjya Rajib Kumar (2016), "Development of an Improved Pollution Source Identification Model Using Numerical and ANN Based Simulation-Optimization Model", *Water Resources Management*, (DOI:10.1007/s11269-016-1476-6).
7. Susheta Chanda and Triptimoni Borah (2016), "Development of Rainfall-Runoff Modelling using ArcSWAT in the Subansiri Basin", *J. of Transactions on Engineering and Sciences*, Vol.4, Issue 2, pp. 77-80, 2016.
8. Gyanashree Bora and Triptimoni Borah (2016), "Simulation of Flow and Transport Processes of a non-uniform aquifer by GMS", *J. of Civil Engineering and Environmental Technology*, Vol.3, Issue 3, pp. 237-240, 2016.
9. Gyanashree Bora and Triptimoni Borah (2016), "Simulation of Pollutant distribution of Groundwater Aquifer in Deeporbill Area, Guwahati, Assam, using GMS", *J. of Transactions on Engineering and Sciences*, Vol.4, Issue 2, pp. 77-80, 2016.
10. Das, M. and Borah, T. (2016). "One Dimensional Flow through Variably Saturated Soil Profile of Guwahati City, Assam, India." *Journal of Civil Engineering and Environmental Technology* p-ISSN: 2349-8404; e-ISSN: 2349-879X; Volume 3, Issue 3; January-March, 2016, pp. 218-222
11. Borah Triptimoni, and Bhattacharjya Rajib Kumar (2014), "Development of Unknown Pollution Source Identification Models Using GMS ANN Based Simulation-Optimization Methodology." *Journal of Hazardous, Toxic, and Radioactive Waste, ASCE*, (DOI: 10.1061/(ASCE)HZ.2153-5515.0000242).
12. Borah Triptimoni, and Bhattacharjya Rajib Kumar (2013), "Solution of Source Identification Problem By Using GMS And MATLAB", *ISH Journal of Hydraulic Engineering*, 19(3), 297-304.
13. Borah Triptimoni, and Mahanta Chandan (2011), "Study of Key Parameters and Monitoring of Sediment Concentration by ANN Model in Brahmaputra River, Assam, *Journal on Civil Engineering*, i-manager Publication, In the Mar-May'11.

Conference Publications:

1. Kaustuv Bhuyan, and Dr. Triptimoni Borah (2024) “Trend Analysis of Groundwater levels in Kamrup Metropolitan District of Assam in Northeast India” Conference on Water: Water for Peace.: World Water Day:, IEI, March 22,2024.
2. Lakhana Katak and Dr. Triptimoni Borah (2023) “A STUDY OF SEASONAL VARIATIONS IN PHYSICOCHEMICAL CHARACTERISTICS AND STATISTICAL PARAMETERS OF NATURAL RESERVOIR IN DEEPOR BEEL AREA,GUWAHATI,ASSAM” Conference on Water: Accelerating Change.: World Water Day:, IEI, March 22,2023.
3. Chandan Jyoti Saikia¹, Triptimoni Borah², Manipuspak Hazarika³ (2022) “ A STUDY ON THE IMPACT OF WATER POLLUTION DUE TO WASTE DUMPING AT DEEPORT BEEL USING HYDRUS 1D SOFTWARE”. Conference on Groundwater: Making the Invisible Visible :World Water Day:, IEI, March 22,2022.
4. Juhi Goswami, Manipuspak Hazarika*, Triptimoni Borah, (2020) “Comparative study of the quality of treated and untreated water from two water treatment plants in Guwahati, Assam (India)”. A Web Conference of 3rd NATIONAL CONFERENCE ON RECENT ADVANCES IN SCIENCE AND TECHNOLOGY U N D E R T E Q I P - III PR
5. Shikha Kotoky, Triptimoni Borah (2020), An Experimental Study on Noise Pollution in the Campus of Assam Engineering College, A Web Conference of 3rd NATIONAL CONFERENCE ON RECENT ADVANCES IN SCIENCE AND TECHNOLOGY U N D E R T E Q I P - III PR
6. Shikha Katak 1 , Dr. Triptimoni Borah (2020) **MODFLOW, MODPATH and MT3DMS based simulation of groundwater flow and leachate transport from landfill**, HYDRO 2020 INTERNATIONAL 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, March 26-28, 2021
7. Chandan Jyoti Saikia¹, Dr. Triptimoni Borah² **A STUDY ON THE IMPACT OF WATER POLLUTION DUE TO DUMPING OF WASTE IN THE DEEPOR BEEL**, HYDRO 2020 INTERNATIONAL 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, March 26-28, 2021
8. Hadi Ahmed and Triptimoni Borah “Development of an Efficient Methodology for Improving Ground Water Recharge by Hydrus 1 D” , HYDRO 2020 INTERNATIONAL 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, March 26-28, 2021.

9. Borah P and Borah T (2018), "Development of rainfall runoff model using Cubic Polynomial regression for Brahmaputra river basin, at Pandu location, Assam", International Conference on Civil Engineering for Sustainable Development-Opportunities and Challenges (CESDOC), Assam Engineering College, Guwahati, India, 18-19 Dec, 2018.
10. Bora B and Borah T (2018), "Analysis of soil hydraulic properties in unsaturated soil," International Conference on Civil Engineering for Sustainable Development-Opportunities and Challenges (CESDOC), Assam Engineering College, Guwahati, India, 18-19 Dec, 2018.
11. Choudhury R.S and Borah T (2018), "Unsteady flow analysis of Brahmaputra river at an urban stretch of Guwahati using HEC-RAS", International Conference on Civil Engineering for Sustainable Development-Opportunities and Challenges (CESDOC), Assam Engineering College, Guwahati, India, 18-19 Dec, 2018.
12. Borah Pranami and Borah Triptimoni (2018), "Comparison of Quadratic Polynomial regression and Cubic Polynomial regression for prediction of rainfall runoff model at Brahmaputra river basin at Pandu location, Assam", International Conference on Infrastructure Development (ICID), Jorhat Engineering College, Assam, India, 21-22 Dec, 2018.
13. Bora Banakshi and Borah Triptimoni (2018), ". A Study on soil hydraulic properties in unsaturated soil for different location of Guwahati city using RETC program", International Conference on Infrastructure Development (ICID), Jorhat Engineering College, Assam, India, 21-22 Dec, 2018.
14. Choudhury Rubia Sultana and Borah Triptimoni (2018), "Water Quality Analysis Of Brahmaputra River At An Urban Stretch Of Guwahati City Using HEC-RAS", International Conference on Infrastructure Development (ICID), Jorhat Engineering College, Assam, India, 21-22 Dec, 2018.
15. Borah Pranami and Borah Triptimoni (2018), "Comparison of linear regression and non-linear regression for prediction of rainfall runoff model at Brahmaputra river basin at Pandu location, Assam", HYDRO-2018 INTERNATIONAL" Conference at National Institute of Technology Patna, INDIA from 19 to 21 December 2018.

16. Bora Banakshi and Borah Triptimoni (2018), “Estimation of soil hydraulic properties in unsaturated soil using RETC program”, HYDRO-2018 INTERNATIONAL" Conference at National Institute of Technology Patna, INDIA from 19 to 21 December 2018.
17. Choudhury Rubia Sultana and Borah Triptimoni (2018), “Application of 1-D HEC-RAS model to evaluate flood conveyance of Brahmaputra River at an urban stretch of Guwahati" Conference at National Institute of Technology Patna, INDIA from 19 to 21 December 2018.
18. Banakshi Bora and Triptimoni Borah, (2018). “ Soil Water Characteristics Study in Unsaturated Soil” National Coonference on Advances in Civil Infrasgructure Engineeringn (ACIE-2018), held in Tezpur University, Tezpur, India from 16-17 February 2018.
19. Rubia Sultana Choudhury and Triptimoni Borah, (2018). “ Study of Effect of Dam Construction at Tibet on Brahmaputra Near Dibrugarh” National Coonference on Advances in Civil Infrasgructure Engineeringn (ACIE-2018), held in Tezpur University, Tezpur, India from 16-17 February 2018.
20. Pranami Borah and Triptimoni Borah, (2018). “ Development of Rainfall Runoff Model Using Regression Analysis for Subansiri River Basin” National Coonference on Advances in Civil Infrasgructure Engineeringn (ACIE-2018), held in Tezpur University, Tezpur, India from 16-17 February 2018.
21. Karishma Chetia and Triptimoni Borah, (2018). Pollution Distribution in Groundwater Aquifer in Deepor Beel Area, Guwahati, using FEMWATER” National Coonference on Advances in Civil Infrasgructure Engineeringn (ACIE-2018), held in Tezpur University, Tezpur, India from 16-17 February 2018.
22. Angshuman Bhattacharyya, Sanjibul Islam, Habib Ahmed Mazumder and Triptimoni Borah, (2018). An Approach to Design and Analysis of Wastewater Treatment Plant in Guwahati City” National Coonference on Advances in Civil Infrasgructure Engineeringn (ACIE-2018), held in Tezpur University, Tezpur, India from 16-17 February 2018.
23. SushetaChanda and Triptimoni Borah (2016), “ Development of Rainfall-Runoff Modelling using ArcSWAT and artificial neural network in the Subansiri Basin”,1st International Conference on Civil Engineering for Sustainable Development-Opportunities and Challenges (CESDOC 2016), from 19-21 December, 2016.

24. Gyanashree Bora and Triptimoni Borah (2016), "Simulation of aerobic degradation of BTEX compounds by using GMS and RT3D", 1st International Conference on Civil Engineering for Sustainable Development-Opportunities and Challenges (CESDOC 2016), from 19-21 December, 2016.
25. Borah, T. and Das, M. (2016), "Evaluation of the Sediment Concentration in Part of Bhogdoi River in Assam, India, by ANN and MLR Geo-Chicago 2016: pp. 439-448. doi: 10.1061/9780784480168.044
26. Das, M. and Borah, T. (2016), "Study of Mineralogical composition of sediment in Brahmaputra River in Urban stretch of Guwahati city, Assam, India." International Conference on Water, Environment, Energy and Society (ICWEES-2016) to be held in Bhopal, India from March 15 – 18, 2016.
27. Borah, T., and Bhattacharjya, R. K. (2015), Development of an improved methodology for Pollution source identification by using ANN-GMS-GA model with sorting data." 9th world Congress, EWRA. June 10-13, 2015, Grand Cevahir Hotel-Istanbul Turkey.
28. Borah Triptimoni, and Bhattacharjya Rajib Kumar (2014), "Identification of Unknown Pollution Sources in Groundwater Aquifer using ANN-GA based Simulation-Optimization Model". HYDRO-2014, ISH, NIT Bhopal, Dec 18-20, India.
29. Borah Triptimoni, and Bhattacharjya Rajib Kumar (2013), "Solution of Source Identification Problem By Using GMS And MATLAB", HYDRO-2012, ISH, IIT Bombay, Dec 7-8, India.
30. Borah Triptimoni, and Bhattacharjya, Rajib Kumar, (2013), "Matlab-WMS based pollution source identification model for groundwater aquifer", IAH 2013, held at Perth Convention Centre, Western Australia from 15-20 September, 2013.
31. Borah Triptimoni, and Bhattacharjya, Rajib Kumar, (2012), "Coastal aquifer management models: A comprehensive review on model development", International conference on Environmentally Sustainable Urban Ecosystem (ENSURE 2012), held in IIT Guwhati, Guwahati, India from 24-26 February 2012.
32. Borah Triptimoni, and Bhattacharjya, Rajib Kumar (2011), "Simple simulation procedure of transient groundwater flow process using spreadsheet solver", 4th International Perspective on Water Resources and Environment: IPWE 2011, held at National University of Singapore, Singapore from 4-6 of January, 2011.

33. B. Tripti, M. Chandan (2010), "Testing and Monitoring of Sediment Concentration and Key Parameters in a part of Brahmaputra River, Assam." Proceedings of the 6th International Congress on Environmental Geotechnics (8th to 12th Nov, 2010) New Delhi, India pp 1534-1539.
34. Mahanta, C., Bora, T., and Pathak, N. (2007), "Evaluation of Sediment Flux in a Part of the Brahmaputra River and Application of ANN and Linear Regression Models." World Environmental and Water Resources Congress 2007: pp. 1-13. doi: 10.1061/40927(243)397.
35. B. Tripti, M. Chandan (2010), "DEVELOPMENT OF ENVIRONMENTAL MANAGEMENT MODEL AND STUDY OF KEY PARAMETERS IN BRAHMAPUTRA RIVER, ASSAM." 3rd International Postgraduate Conference on Infrastructure and Environment 11-12 July 2011 (Monday-Tuesday) pp-445-451.

Books Published: BOOKS AND LECTURE NOTES

Bhattacharjya, Rajib Kumar and Borah, Triptimoni (2016). Coastal Aquifer Management Models: A Comprehensive Review on Model Development, In [*Urban Hydrology, Watershed Management and Socio-Economic Aspects*](#). (pp. 95-106) Springer.

Das, Mamata and Borah, Triptimoni (2018). Virus Transport Through Unsaturated Zone in Guwahati City Under Transient State Condition, In **Geotechnical Characterisation and Geoenvironmental Engineering** (pp. 227-234) Springer. [Link https://link-springer.com/chapter/10.1007/978-981-13-0899-4_28](https://link-springer.com/chapter/10.1007/978-981-13-0899-4_28)

