

Dr. Berlin Mohanadhas

Associate Professor,
Department of Civil Engineering,
National Institute of Technology Arunachal Pradesh,
Jote, Papum Pare, Arunachal Pradesh, India – 791 113
Mobile: +91-9485255227; +91-8870890922
Email: berlin1982@gmail.com; berlin@nitap.ac.in

<https://nitap.irins.org/profile/113477>

<https://scholar.google.co.in/citations?user=6AF6v4AAAAJ&hl=en>

<https://www.scopus.com/authid/detail.uri?origin=AuthorProfile&authorId=23003745900&zone>

EDUCATION

Doctor of Philosophy (Graduation: 2015)

Specialization : Environmental and Water Resources Engineering
Institute : Indian Institute of Technology Madras

Master of Engineering (Graduation: 2007)

Specialization : Hydrology and Water Resources Engineering
Institute : College of Engineering Guindy, Anna University

Bachelor of Engineering (Graduation: 2004)

Specialization : Civil Engineering
Institute : Hindustan College of Engineering, Chennai, Madras University

FIELDS OF INTEREST

- Flow and transport modeling in porous media
- Flow and transport modeling in fractured porous media
- Modeling of nitrate transport in unsaturated and fractured porous media
- Numerical modeling in unsaturated porous media
- Colloid-facilitated contaminant transport modeling
- Hydrocarbon transport in porous media
- Sediment transport in river

TEACHING EXPERIENCE (13 years)

Associate Professor (April, 2023 to Till Date)

Department of Civil Engineering
National Institute of Technology Arunachal Pradesh

Assistant Professor (Dec 2015 to April, 2023)

Department of Civil Engineering
National Institute of Technology Arunachal Pradesh

Associate Professor (Jan 2015 to Nov 2015)

Department of Civil Engineering
V V College of Engineering, Tirunelveli, Tamilnadu

Lecturer (July 2009 to Nov 2009)

Department of Civil Engineering
St.Xavier's Catholic College of Engineering, Kanyakumari, Tamilnadu

Lecturer (Aug 2008 to June 2009)

Department of Civil Engineering
Noorul Islam Engineering College, Kanyakumari, Tamilnadu

Lecturer (July 2007 to July 2008)

Department of Civil Engineering
Jayamatha Engineering College, Kanyakumari, Tamilnadu

PUBLICATIONS

Peer reviewed international journals

1. Jino Lawrence, Natarajan Narayanan, **Berlin Mohanadhas**, Vasudevan Mangottri (2026). "Numerical modeling of transport of nanoparticles in a sinusoidal single fracture of the fracture-matrix-skin coupled subsurface system", Physics and Chemistry of the Earth, 144:104508 <https://doi.org/10.1016/j.pce.2026.104508> [Impact factor: 4.1], (Scopus, SCIE & Q1).
2. Senthil Kumar Dineshkumar, Mohanadhas Berlin, Narayanan Natarajan, Vasudevan Mangottri (2026). "Integrating pollution indices and multivariate tolerance analysis for heavy metal risk assessment in Pollachi surface waters", ISH Journal of Hydraulic Engineering, <https://doi.org/10.1080/09715010.2026.2664167> (Scopus & Q2).
3. Jino Lawrence, **Berlin Mohanadhas**, Natarajan Narayanan, Vasudevan Mangottri (2026). "Confronting the Implications of Subsurface Heterogeneity on the Mass Transfer and Transport of Nitrate through Layered Porous Media", Journal of Porous Media,

- 29(2): 49-69. <https://doi.org/10.1615/JPorMedia.2025053663> [Impact factor: 2.3], (Scopus, SCIE & Q3).
4. Mohd Nadim Ahmed, **Berlin Mohanadhas**, Natarajan Narayanan (2026). "Experimental Analysis of the Hydraulics of Overland Flow under Different Slope Gradients and Flow Conditions", *ISH Journal of Hydraulic Engineering*, 32(1), 97-121. <https://doi.org/10.1080/09715010.2025.2584052> (Scopus & Q2).
 5. Mohd Nadim Ahmed, **Berlin Mohanadhas** (2026). "Influence of river vegetation on sediment transport and erosion mitigation: A review", *Research in Cold and Arid Regions*, 18, 101–105. <https://doi.org/10.1016/j.rcar.2025.07.001> [Impact factor: 2.3], (Scopus, Q3).
 6. Radha Palpi Boruah, **Berlin Mohanadhas**, Jayakesh K (2025). "Microbially Induced Calcite Precipitation for Soil Stabilization: A State-of-Art Review", *Geomicrobiology Journal*, 42(10), 1122-1137. <https://doi.org/10.1080/01490451.2025.2545389> [Impact factor: 1.9], (Scopus, SCIE & Q2).
 7. Radha Palpi Boruah, **Berlin Mohanadhas** (2025). "Effect of Freezing and Thawing on Poorly Graded Sandy-Silt Soil", *Geomicrobiology Journal*, 42(6), 530-539. <https://doi.org/10.1080/01490451.2025.2485468> [Impact factor: 1.9], (Scopus, SCIE & Q2).
 8. Jino Lawrence, Natarajan Narayanan, **Berlin Mohanadhas**, Alagarsamy Vanav Kumar, Swapnali Doley, Vasudevan Mangottri (2025). "Temporal fractionation models for depicting mass transfer limiting conditions of multispecies transport in porous media", *Groundwater for Sustainable Development*, 29:101438. <https://doi.org/10.1016/j.gsd.2025.101438> [Impact factor: 5.6], (Scopus & Q1).
 9. Radha Palpi Boruah, **Berlin Mohanadhas**, Jayakesh Kamalanathan (2025). "A comparative study of the shear strength of a poorly graded soil using *Bacillus subtilis*, vetiver fibre and bamboo fibre", *Advances in Bamboo Science*, 11:100146, <https://doi.org/10.1016/j.bamboo.2025.100146> [Impact factor: 3.7], (Scopus & Q2).
 10. Mohd Nadim Ahmed, **Berlin Mohanadhas** (2025). "Review of the effect of river vegetation on sediment transport and river morphology and erosion prevention", *ISH Journal of Hydraulic Engineering*, 31(2): 398–408, <https://doi.org/10.1080/09715010.2025.2471362> (Scopus & Q2).
 11. Radha Palpi Boruah, **Berlin Mohanadhas**, Jayakesh Kamalanathan (2025). "Influence of Microbially Induced Calcite Precipitation on the Behaviour of Sandy-Silt Soil under Freezing and Thawing Cycles", *Transportation Infrastructure Geotechnology*, 12:67 (1-18), <https://doi.org/10.1007/s40515-024-00530-3> [Impact factor: 2.3], (Scopus & Q2).
 12. Jino Lawrence, **Berlin Mohanadhas**, Natarajan Narayanan, Vasudevan Mangottri (2024). "Numerical Analysis on the Fate and Transport of TiO₂ Nanoparticles in Fractured Porous Media: Addressing Intrinsic Heterogeneities in Sorptive Mass Transfer", *Science of the Total Environment*, 955: 177008. <https://doi.org/10.1016/j.scitotenv.2024.177008> [Impact factor: 8.0], (Scopus, SCIE & Q1).
 13. Gupta D, Hazarika B B, **Berlin Mohanadhas** (2024). "Wavelet kernel large margin distribution machine-based regression for modelling the river suspended sediment

- load", *Computers and Electrical Engineering*, 120: 109783. <https://doi.org/10.1016/j.compeleceng.2024.109783> [Impact factor: 4.9], (Scopus, SCIE & Q1).
14. Radha Boruah, **Berlin Mohanadhas**, Jayakesh K (2024). "Application of Microbially Induced Calcite Precipitation to Improve Poorly Graded Sandy Soil", *Suranaree Journal of Science and Technology*, 31(5):010331(1-9), <https://doi.org/10.55766/sujst-2024-05-e05272> (Scopus & Q4).
 15. Jino Lawrence, Vanav Kumar Alagarsamy, Swapnali Doley, **Berlin Mohanadhas**, Ashwin Jacob, Natarajan Narayanan (2024). "Revolutionizing EV battery cooling: Innovative hybrid nanofluid solution in an inverted right-angled triangular porous cavities for enhanced thermal regulation via natural convection", *Journal of Energy Storage*, 94: 112470. <https://doi.org/10.1016/j.est.2024.112470> [Impact factor: 9.8], (Scopus, SCIE & Q1).
 16. Subramaniam Nachimuthu Deepa, Narayanan Natarajan, **Berlin Mohanadhas** (2023). "Enhanced variational mode decomposition with deep learning SVM kernels for river streamflow forecasting", *Environmental Earth Sciences*, 82:544. <https://doi.org/10.1007/s12665-023-11222-5> [Impact factor: 2.8], (Scopus, SCIE & Q1).
 17. Jino Lawrence, Vanav Kumar Alagarsamy, **Berlin Mohanadhas**, Natarajan Narayanan, Vasudevan Mangottri, Suresh Kumar Govindarajan (2023). "Nitrate transport in a fracture-skin-matrix system under non-isothermal conditions", *Environmental Science and Pollution Research*, 30, 18091–18112. <https://doi.org/10.1007/s11356-022-23428-4> [Impact factor: 5.8], (Scopus, SCIE & Q1).
 18. Jino Lawrence, **Berlin Mohanadhas**, Natarajan Narayanan, Vanav Kumar A, Vasudevan Mangottri, Suresh Kumar Govindarajan (2022). "Numerical modelling of nitrate transport in fractured porous media under non-isothermal conditions", *Environmental Science and Pollution Research*, 29, 85922–85944. <https://doi.org/10.1007/s11356-021-15691-8> [Impact factor: 5.8], (Scopus, SCIE & Q1).
 19. Deepak Gupta, Natarajan Narayanan, **Berlin Mohanadhas** (2022). "Short term wind speed forecasting using hybrid machine learning techniques", *Environmental Science and Pollution Research*, 29, 50909–50927. <https://doi.org/10.1007/s11356-021-15221-6> [Impact factor: 5.8], (Scopus, SCIE & Q1).
 20. Vanav Kumar A, Jino Lawrence, Swapnali Doley, **Berlin Mohanadhas** (2021). "Magnetic Field Effect on Lid-Driven Porous Cavity Heated to the Right Wall", *Science & Technology Asia*, 26(4), 27–38. <https://ph02.tci> (Scopus).
 21. Deepak Gupta, Barenya Bikash Hazarika, **Berlin Mohanadhas**, Usha Mary Sharma, Kshitij Mishra (2021). "Artificial Intelligence for suspended sediment load prediction: a review", *Environmental Earth Sciences*, 80:346. <https://doi.org/10.1007/s12665-021-09625-3> [Impact factor: 2.8], (Scopus, SCIE & Q1).
 22. Laxmi Linggi, **Berlin Mohanadhas**, Mainak Mallik (2021). "Experimental investigation on the effects of clay colloid facilitated ammonium transport through saturated porous

- media under variable transport conditions", *Chemical Papers*, 75, 3411–3420. <https://doi.org/10.1007/s11696-021-01570-6> [Impact factor: 2.5], (Scopus, SCIE & Q2).
23. Berlin Mohanadhas, Natarajan N, Vasudevan M, Suresh Kumar G (2021). "Impact of skin on the movement of nitrates in a fractured porous media: Numerical investigations", *Arabian Journal for Science and Engineering*, 46, 4811-4824. <https://doi.org/10.1007/s13369-020-05174-2> [Impact factor: 2.9], (Scopus, SCIE & Q1).
 24. Thangapandi K, Anuradha R, Awoyera P O, Gobinath R, Archana N, Berlin Mohanadhas, Oladimeji O B. (2021) "Durability Phenomenon in Manufactured Sand Concrete: Effects of Zinc Oxide and Alcofine on Behaviour", *Silicon*, 13, 1079-1085. <https://doi.org/10.1007/s12633-020-00494-2> [Impact factor: 3.3], (Scopus, SCIE & Q2).
 25. Laxmi Linggi, Berlin Mohanadhas, Mainak Mallik, Shantonu Roy, Narayanan Natarajan, Mangottiri Vasudevan (2021). "Feasibility Investigation of Adsorptive Removal of NH_4^+ and NO_3^- Species from Clayey Aquifer using Special Soils", *Environment, Development and Sustainability*, 23, 6749-6768. <https://doi.org/10.1007/s10668-020-00889-6> [Impact factor: 4.2], (Scopus, SCIE & Q1).
 26. Hazarika B B, Gupta D, Berlin Mohanadhas (2021). "A coiflet LDMR and coiflet OB-ELM for river suspended sediment load prediction", *International Journal of Environmental Science and Technology*, 18, 2675–2692. <https://doi.org/10.1007/s13762-020-02967-8> [Impact factor: 3.4], (Scopus, SCIE & Q1).
 27. Berlin Mohanadhas, Natarajan N, Vasudevan M, Suresh Kumar G (2020). "Influence of Transient Porosity in a Coupled Fracture-Skin-Matrix System at the Scale of a Single Fracture", *Environmental Science and Pollution Research*, 28, 18632-18650. <https://doi.org/10.1007/s11356-020-11489-2> [Impact factor: 5.8], (Scopus, SCIE & Q1).
 28. Hazarika B B, Gupta D, Berlin Mohanadhas (2020). "Modeling suspended sediment load in a river using extreme learning machine and twin support vector regression with wavelet conjunction". *Environmental Earth Sciences*, 79(10), 234. <https://doi.org/10.1007/s12665-020-08949-w> [Impact factor: 2.8], (Scopus, SCIE & Q1).
 29. Hazarika B B, Gupta D, Berlin Mohanadhas (2020). "Robust regularized extreme learning machine with asymmetric Huber loss function", *Neural Computing and Applications*, 32(16), 12971-12998. <https://doi.org/10.1007/s00521-020-04741-w> [Impact factor: 6], (Scopus, SCIE & Q1).
 30. Berlin Mohanadhas, Suresh Kumar G (2019). "Numerical Experiments on Fate and Transport of Benzene with Biological Clogging in Vadoze Zone", *Environmental Processes*, 6(4), 841-858. <https://doi.org/10.1007/s40710-019-00402-w> [Impact factor: 4.0], (Scopus & Q1).
 31. Naresh K Sharma and Berlin Mohanadhas (2019) "Phenol transport and biodegradation model in an unsaturated porous media from wastewater discharge", *International Journal of Innovative Technology and Exploring Engineering*, 9(2S2), 693-696. <https://www.ijitee.org/wp-content/uploads/papers/v9i2s2/B11671292S219.pdf> (Scopus & Q4)

32. **Berlin Mohanadhas**, Suresh Kumar G (2018). "Numerical modeling on sorption kinetics of nitrogen species in wastewater-applied agricultural field", Applied Water Science, 8(8), 216. <https://doi.org/10.1007/s13201-018-0869-5> [Impact factor: 5.7], (Scopus, SCIE & Q1).
33. **Berlin Mohanadhas**, Suresh Kumar G (2018). "Modeling the Sensitivity of Hydrogeological Parameters Associated with Leaching of Uranium Transport in an Unsaturated Porous Medium", Environmental Engineering Research, 23(4), 462-473. <https://doi.org/10.4491/eer.2017.113> [Impact factor: 3.0], (Scopus, SCIE & Q2).
34. **Berlin Mohanadhas**, Vasudevan M, Mohanasundaram S, Suresh Kumar G, Indumathi M Nambi (2017). "Numerical Investigations on Feasibility of Surfactant Enhanced Remediation of Polycyclic Aromatic Hydrocarbon in an Unsaturated Subsurface System beneath an Onshore Surface Spill Site", International Journal of Environmental Technology and Management, 20(5-6), 321-346. <https://doi.org/10.1504/IJETM.2017.091293> [Impact factor: 0.4], (Scopus & Q4).
35. **Berlin Mohanadhas**, Indumathi M Nambi, Suresh Kumar G (2015). "Experimental and Numerical Investigation on Nitrogen Species Transport in Unsaturated Soil during Various Irrigation Patterns", Sadhana, 40(8), 2429-2455. <https://doi.org/10.1007/s12046-015-0420-4> [Impact factor: 1.4], (Scopus, SCIE & Q2).
36. **Berlin Mohanadhas**, Vasudevan M, Suresh Kumar G, Indumathi M Nambi (2015). "Numerical Modeling on Fate and Transport of Petroleum Hydrocarbons in an Unsaturated Sub-surface System for Varying Source Scenario", Journal of Earth System Science, 124(3), 655-674. <https://doi.org/10.1007/s12040-015-0562-0> [Impact factor: 1.7], (Scopus, SCIE & Q2).
37. **Berlin Mohanadhas**, Suresh Kumar G, Indumathi M Nambi (2015). "Numerical modeling of biological clogging on transport of nitrate in an unsaturated porous media", Environmental Earth Sciences, 73(7), 3285-3298. <https://doi.org/10.1007/s12665-014-3612-z> [Impact factor: 2.8], (Scopus, SCIE & Q1).
38. **Berlin Mohanadhas**, Suresh Kumar G, Indumathi M Nambi (2014). "Numerical modeling on transport of nitrogen from wastewater and fertilizer applied on paddy fields", Ecological Modelling, 278, 85-99. <https://doi.org/10.1016/j.ecolmodel.2014.02.008> [Impact factor: 3.2], (Scopus, SCIE & Q1).
39. **Berlin Mohanadhas**, Suresh Kumar G, Indumathi M Nambi (2014). "Numerical modeling on the effect of dissolved oxygen on nitrogen transformation and transport in unsaturated porous system", Environmental Modeling and Assessment, 19(4), 283-299. <https://doi.org/10.1007/s10666-014-9399-1> [Impact factor: 2.6], (Scopus, SCIE & Q2).
40. **Berlin Mohanadhas**, Suresh Kumar G, Indumathi M Nambi (2013). "Numerical modeling on the fate and transport of nitrate in an unsaturated system under non-isothermal conditions", European Journal of Environmental and Civil Engineering, 17(5), 350-373. <https://doi.org/10.1080/19648189.2013.788984> [Impact factor: 2.3], (Scopus, SCIE & Q2).

Conference presentations

1. Radha Palpi Boruah, **Berlin Mohanadhas**, Jayakesh K (2025). "Influence of Vetiver and Bamboo Fibers on the Microbially Induced Calcite Precipitation Treated Soil",

Proceeding of International Conference on Advances in Materials, Modeling and Analysis for Sustainable and Resilient Infrastructure (AMMASRI'25), held at Amrita Vishwa Vidyapeetham, Coimbatore, Tamil Nadu, India during 9-11 January 2025, Lecture Notes in Civil Engineering, Vol - 719, 531–546. [https://doi.org/ 10.1007/978-981-95-0229-5_41](https://doi.org/10.1007/978-981-95-0229-5_41)

2. **Berlin Mohanadhas**, Jino Lawrence, Naresh Kumar Sharma (2025). "Transport Modeling of Microplastic Particles in Fractured Porous Media", Proceeding of International Conference on Advances in Materials, Modeling and Analysis for Sustainable and Resilient Infrastructure (AMMASRI'25), held at Amrita Vishwa Vidyapeetham, Coimbatore, Tamil Nadu, India during 9-11 January 2025, Lecture Notes in Civil Engineering, Vol - 719, 227–237. https://doi.org/10.1007/978-981-95-0229-5_19
3. Jino Lawrence, **Berlin Mohanadhas**, Natarajan Narayanan, Vanav Kumar Alagarsamy, Vasudevan Mangottri (2024). "Numerical analysis on the transport of TiO₂ nanoparticles in fractured porous media", International Conference on Trends in Chemical, Energy and Environmental Engineering, ChemEEE-2024 held at Indian Institute of Petroleum and Energy, Visakhapatnam, India during 19-21 February 2024.
4. Narayanan Natarajan, Murugesan Shyam Sundar, **Berlin Mohanadhas**, Mangottiri Vasudevan. (2022) "Concrete classification using machine learning techniques", Advances in Structural Mechanics and Applications (ASMA-2021) (Online Mode) held at National Institute of Technology Silchar, Assam, India during 06-08 October 2021, Advances in Structural Mechanics and Applications, Springer, https://doi.org/10.1007/978-3-030-98335-2_12
5. Jino L., Vanav Kumar A., Swapnali Doley, **Berlin Mohanadhas**, Mohanty P. K. (2022) "Numerical Modelling of Porous Square Cavity Heated on Vertical Walls in Presence of Magnetic Field", Advances in Thermofluids and Renewable Energy held at National Institute of Technology Arunachal Pradesh, India during 26-28 November 2020, Lecture Notes in Mechanical Engineering, Springer, https://doi.org/10.1007/978-981-16-3497-0_10
6. **Berlin Mohanadhas**, Barennya Bikash Hazarika, Deepak Gupta (2020). "Prediction of suspended sediment load in river using computational machine learning techniques", Indo-Swedish Research Workshop on Impacts of El-Nino Southern Oscillation on the Water-Energy-food Nexus held at IIT Roorkee, India during 9-11 January 2020.
7. Hazarika B.B., Gupta D., Ashu, **Berlin Mohanadhas** (2019). "A Comparative Analysis of Artificial Neural Network and Support Vector Regression for River Suspended Sediment Load Prediction", First International Conference on Sustainable Technologies for Computational Intelligence. Advances in Intelligent Systems and Computing, Vol 1045, pp 339-349. Springer. https://doi.org/10.1007/978-981-15-0029-9_27 (Scopus)
8. Jino L, **Berlin Mohanadhas**, Vanav Kumar A, Suresh Kumar G (2019). "Numerical Modeling of Nitrate Transport in Fractured Porous Media", International Ground Water Conference (IGWC-2019) held at IIT Roorkee during 21-24 October 2019.
9. Vanav Kumar A, Jino L, **Berlin M**, P K Mohanty (2019). "Magnetic field effect on nanofluid suspension cavity by non-uniform boundary conditions", International

Conference on Applied Mechanics and Optimisation (ICAMeO-2019) held at Thiruvananthapuram during 13–15 June 2019. AIP conference proceedings, <https://doi.org/10.1063/1.5120205> (Scopus)

10. **Berlin Mohanadhas** and Suresh Kumar G (2019). "Modeling of organic acid transport in unsaturated sub-surface system", Sustainable Practices and Innovations in Civil Engineering (SPICE 2019) held at SSN College of Engineering, Chennai during 26-27 March 2019, https://doi.org/10.1007/978-981-15-5101-7_3
11. Linggi Laxmi, **Berlin Mohanadhas**, Mallik Mainak, Shantonu Roy (2018). "Experimental Investigation on Ammonium Adsorption in Clayey and Sandy soil", HYDRO 2018, International Conference on Hydraulics, Water Resources and Coastal Engineering, held at NIT Patna during 15-17 October 2018.
12. **Berlin Mohanadhas** and Suresh Kumar G (2018). "Numerical Modeling of Enhanced Mobility of Petroleum Hydrocarbon in Saturated Porous Media", 4th International Conference in Ocean Engineering (ICOE 2018) held at IIT Madras, Chennai during 18-21 February 2018. https://doi.org/10.1007/978-981-13-3119-0_70 (Scopus)
13. **Berlin Mohanadhas** and Suresh Kumar G (2017). "Numerical Modeling of Nitrate Migration in Under-Saturated Sand and Clay Porous Media", IEEE Second International Conference on Environmental Management and Green Technologies (ICEMGT' 17) held at St. Peter's College of Engineering and Technology, Chennai during 27-29 September 2017.
14. **Berlin Mohanadhas**, Suresh Kumar G, and Indumathi M Nambi (2013). "Understanding nitrogen species transport in an unsaturated porous media for effective wastewater reuse", Eighth IAHS International Groundwater Quality Conference (GQ-13) held at University of Florida, USA during 21-26 April 2013.
15. **Berlin Mohanadhas**, Suresh Kumar G, and Indumathi M Nambi (2013). "Numerical modeling of the effect of immobile water content on nitrate in an unsaturated porous system", First International Conference on Emerging Trends in Engineering and Technology (ICETET 2013) held at Marthandam College of Engineering and Technology, Tamilnadu, India during 21-22 February 2013.
16. **Berlin Mohanadhas**, Suresh Kumar G, and Indumathi M Nambi (2012). "Numerical modeling for enhanced transformation of nitrate in an unsaturated porous media", International Ground Water Conference (IGWC-2012) held at Aurangabad, Maharashtra during 18-21 December 2012.
17. **Berlin Mohanadhas**, Suresh Kumar G, and Indumathi M Nambi (2012). "Numerical modeling of petroleum hydrocarbon transport in an unsaturated sub-surface system", International Conference on Drilling Technology (ICDT-2012) held at Chennai, IIT-Madras during 6 – 8 December 2012.
18. **Berlin Mohanadhas**, Suresh Kumar G, and Indumathi M Nambi (2011). "Numerical modeling of nitrate transport and transformation in an unsaturated sub-surface system", International Conference on Modeling & Simulation in Civil Engineering (ICMSC-2011) held at Kollam, Kerala during Dec 8 – 10, 2011, Proceedings, pp. 31-38.

19. **Berlin Mohanadhas**, Suresh Kumar G, and Indumathi M Nambi **(2011)**. "Flow and transport model for the noyyal river basin using groundwater modeling system", 4th International Ground Water Conference (IWGC-2011) held at Madurai, Tamil Nadu between Sep 27 – 30, 2011, pp. 430-440.

Book publications

1. Jino Lawrence, Swapnali Doley, Berlin Mohanadhas, Vanav Kumar Alagarsamy, Narayanan Natarajan, Ashwin Jacob "Neural Network–Based Heat Transfer Optimization of Casson Nanofluid Flow for Sustainable Energy Applications", Artificial Intelligence and Machine Learning in Heat Transfer Optimization for Sustainable Energy System **(2026)**, CRC Press, ISBN 9781003647782, <https://doi.org/10.1201/9781003647782>.
2. Jino Lawrence, Kokila Vani Rajadren, Swapnali Doley, Vanav Kumar Alagarsamy, Ashwin Jacob, Berlin Mohanadhas, "Nanoparticles: an overview", Green Magnetic Nanoparticles (GMNPs) **(2024)**, Elsevier, Pages 3-21, ISBN 9780443218958, <https://doi.org/10.1016/B978-0-443-21895-8.00001-1>.
3. Jino L, Vanav Kumar A., **Berlin M.**, Swapnali Doley, Saravanakumar G., Ashwin Jacob, Kumara Swamy H. A., "Influence of Lorentz Force on Cu-Water Nanoliquid Convective Thermal Transfer in a Porous Lid-Driven Cavity with Uniform and Linearly Heated Boundaries", Mathematical Modelling of Fluid Dynamics and Nanofluids **(2023)**, 1st Edition, CRC Press, eBook ISBN: 9781003299608. <https://doi.org/10.1201/9781003299608>
4. Natarajan N, **Berlin Mohanadhas** and Vasudevan M (Editors), "Flow and Transport in Subsurface Environment", Springer Transactions in Civil and Environmental Engineering **(2018)**. <https://doi.org/10.1007/978-981-10-8773-8>

DETAILS OF SPONSORED RESEARCH PROJECT

Completed projects

1. Experimental and numerical investigation on enhanced nitrate contamination in groundwater from wastewater applied agricultural field in the presence of colloidal particles.

Department of Science & Technology

Rs. 36.12 Lakhs (October 2016 – March 2020)

Principal Investigator

2. Prediction of Sediment Load Concentration in Rivers Using Computational Machine Learning Approaches

Department of Science & Technology

Rs. 26.8 Lakhs (April 2017 – September 2020)

Co-Investigator

Ongoing projects

Nil

Proposed projects

1. Experimental and model development on nitrate migration in soil along with the effects of pesticides in agricultural field

Rs. 39.00 Lakhs

Principal Investigator

DETAILS OF SPONSORED CONSULTANCY WORK

Completed projects

1. Vetting of the proposal for mathematical model study for the FMBAP project "Flood Protection Work at Dibang River Basin under Dambuk Sub-Division, Arunachal Pradesh". Sponsored by Water Resources Department, Govt. of Arunachal Pradesh during November 2022 – April 2023.

Rs. 16.5 Lakhs

Investigator

2. Assessment Report for Implementation of PMKSY-HKGP-GW Irrigation scheme in Arunachal Pradesh. Sponsored by Water Resources Department, Govt. of Arunachal Pradesh during February – April 2022.

Rs. 25.02 Lakhs

Investigator

STUDENT GUIDENCE

Doctoral students (Ph.D)

Name	Dissertation Title	Co-supervisor	Year of completion
Dr. Laxmi linggi	Experimental investigation on nitrogen species adsorption on various soils and clay colloidal facilitated transport through saturated porous media	Dr. M. Mallik	2022
Dr. Radha Palpi Boruah	A comparative study on strength behavior of microbially induced calcite precipitation and fibre-reinforced soil	Nil	2025
Mr. Dinesh Kumar	Bio-barrier	--	Ongoing
Mr. Mohd Nadim Ahmed	Sediment transport	--	Ongoing
Ms. Rinya			

SUBJECT TAUGHT

- Engineering hydrology
- Applied hydraulic engineering
- Irrigation and hydraulic structures
- Fluid mechanics
- Groundwater engineering
- Surveying -1
- Transportation engineering – II
- Municipal solid waste management

AWARDS AND HONORS

- Selected as the Best Paper in ChemEEE-2024 conference for the paper on “Numerical analysis on the transport of TiO₂ nanoparticles in fractured porous media” held at IIFE, Visakhapatnam, India during 19-21 February 2024.
- External Examiner for Ph.D Viva-voce in Anna University
- Financial grant for attending conference ‘Groundwater Quality - 2013’ held in Florida, USA from Indian Institute of Technology Madras.
- Selected as the Best Paper in ICETET – 2013 conference for the paper on “Numerical modeling of the effect of immobile water content on nitrate in an unsaturated porous system” held at Marthandam College of Engineering and Technology, Kanyakumari.
- Financial grant for research scholars from Ministry of Human Resources and Development, India: Jan 2010 – Dec 2014.

OUTREACH ACTIVITIES

- Delivered expert talk on “Influence of Temperature and Dissolved Oxygen on the Transport of Nitrate in Porous Media” in National Level Faculty Development Program in Civil Engineering held between 28-09-2021 and 30-09-2021 organized by Department of Civil Engineering, St. Thomas College of Engineering & Technology, Kozhuvallur, Chengannur, Kerala.
- Session chair in “International Conference on Recent Advances in Civil Engineering (ICRACE-2021)” held on 17-19 September 2021 organized by NIT Silchar, Assam.
- Program Advisory Committee member in “International Conference on Environmental Engineering for Sustainable Industry” held on 15-17 March 2021 organized by Bineswar Brahma Engineering College, Kokrajhar, Assam, India jointly with Cooperation Centre for Riverbank Filtration, Dresden, Germany.

- Delivered expert talk on “Issues and Challenges on Groundwater Quality” in CSIR - Summer Research Training Program 2020 (CSIR-SRTP) held on 30-07-2020 organized CSIR-North East Institute of Science and Technology, Jorhat, Assam - 785 006.
- Delivered expert talk on “Experimental and Numerical Modeling of Nitrate Transport in Subsurface Soil” in Faculty Development Program (FDP) on “Experimental and Modeling Aspects in Environmental Engineering” held between 08-06-2020 and 13-06-2020 organized by Department of Civil Engineering, Kalasalingam University, Srivilliputtur, Tamilnadu.
- Delivered expert talk on “Application of Mathematical Modeling on Contaminant Transport in Groundwater” in virtual Faculty Development Program (FDP) on “Research Trends in Civil Engineering” held between 03-06-2020 and 08-06-2020 organized by Department of Civil Engineering, St.Xavier's catholic college of engineering, Kanyakumari, Tamilnadu.

ADMISTRATIVE RESPONSIBILITIES

- Dean (Planning and Development), NIT Arunachal Pradesh (From October 2022 to Till date)
- Head of the Department, Department of Civil Engineering, NIT Arunachal Pradesh (From August 2021 to October 2022)
- Associate Dean (Planning and Development), NIT Arunachal Pradesh (From October 2020 to September 2022)
- TEQIP-III Coordinator, NIT Arunachal Pradesh (From October 2017 to January 2022)
- Head of the Department, Department of Civil Engineering, NIT Arunachal Pradesh (From August 2017 to December 2018)

REVIEWERSHIP OF RESEARCH JOURNALS

- Journal of Hydrology (Elsevier)
- Geoderma (Elsevier)
- Journal of Contaminant Hydrology (Elsevier)
- Science of the Total Environment (Elsevier)
- Environmental Modeling & Assessment (Springer)
- Environmental Engineering Science (Mary Ann Liebert)
- Polymer composites (Wiley Online Library)
- Ain Shams Engineering Journal (Elsevier)
- Theoretical and Applied Climatology(Springer)
- Modeling Earth Systems and Environment (Springer)

CONFERENCE/FDP/WORKSHOP ORGANIZED

- Co-Organizer for AICTE sponsored STTP on “Neoteric Developments in Solid Waste Management” during 21st to 25th March 2022 held at National Institute of Technology, Arunachal Pradesh.
- Organized TEQIP-III sponsored online “Faculty Development Programme” during 03rd to 07th August 2020 held at National Institute of Technology, Arunachal Pradesh.
- Organized TEQIP-III sponsored “Faculty Development Programme” during 03rd to 07th September 2019 held at Government College of Technology, Coimbatore, Tamil Nadu.

PROFESSIONAL TRAINING PARTICIPATED

- Attended workshop on “Application of AI, ML and Optimization in Water Management” during 9th to 10th December 2025 organized by IIT Roorkee.
- Attended program on “Nurturing Future Leadership Program” during 22nd to 26th September 2025 organized by IIT Madras.
- Attended FDP on “Outcome-Based Education and Pedagogical Skills” during 5th to 9th August 2024 organized by NIT Arunachal Pradesh and NITTTR Chandigarh.
- Attended online webinar on “Reservoir Modelling Fundamentals” on 30th October 2021 organized by RESERVOIR SOLUTIONS, Ltd.
- Attended online webinar on “Virtual Classroom: Enhance Teaching through Learning Management System (LMS)” during 15th June 2021 organized by EBSCO Information Services.
- Attended online short term training programme on “Research Prospects in Water Resources and Environmental Engineering” during 15th to 19th September 2020 organized by TKM College of Engineering, Kollam, Kerala.
- Attended TEQIP sponsored “Faculty Development Programme” during 24th to 28th June 2019 organized by IIT Roorkee.
- Attended TEQIP sponsored “Professional Development Training” during 6th to 10th August 2018 organized by IIM Trichy.
- Attended TEQIP sponsored “Faculty Induction Workshop” during 26th to 30th June 2018 organized by IIT Kharagpur.
- Participated workshop on “Advanced Course on Groundwater Modeling & Remediation” during 23 to 25 Sep 2014 organized by IL&FS Academy of Applied Development, Mumbai.
- Attended AICTE sponsored short term course on “Modeling approached for free surface flow and water quality management” during 18th to 23rd Nov 2013 organized by IIT Madras.
- Participated International Colloquium on Youth WES Leadership program on 10th & 11th of March 2013 conducted by Centre of Excellence for Change and IIT Madras.
- Attended SWAT course during 1st to 3rd Dec 2010 organized by department of civil engineering, IIT Madras.

- Attended NPTEL workshop on 8th July 2010 organized by IIT Madras.

COMPUTER & LANGUAGE SKILLS

FORTRAN, HYDRUS-1D, HEC-RAS, Matlab, MODFLOW, AutoCAD

PERSONAL PROFILE

Date of Birth : 22 May 1982
Gender : Male
Marital Status : Married
Languages Known : English, Tamil and Malayalam
Permanent address : No: 12/89, Mampalli Thottam, Viricode,
Kanyakumari, Tamil Nadu – 629165, India.
Phone: +91-8870890922, +91-9485235227
Email: berlin1982@gmail.com

REFERENCES

Prof. G. Suresh Kumar
Professor
Department of Ocean Engineering
Indian Institute of Technology Madras
Chennai – 36, Tamil Nadu, India.
Phone: 044 - 22574814
Email: gskumar@iitm.ac.in

Prof. Indumathi M Nambi
Professor
Department of Civil Engineering
Indian Institute of Technology Madras
Chennai – 36, Tamil Nadu, India.
Phone: 044 - 22574289
Email: indunambi@iitm.ac.in

DECLARATION

I hereby declare that the information furnished above is all true and correct to the best of my knowledge and belief.

Dr. Berlin Mohanadhas