

Dr. Tinesh Pathania

Contact Information	Assistant Professor Department of Environmental Science and Engineering Indian Institute of Technology (Indian School of Mines) Dhanbad Dhanbad, 826004, Jharkhand, India Mobile No. +91-8828290580 <i>E-mail:</i> tineshpathania@iitism.ac.in	
Research Interests	Groundwater Flow and Contaminant Transport Modelling Multispecies Reactive Transport Modelling Modelling Groundwater Processes Using Finite Difference (FDM), Finite Element (FEM) and Meshless Methods In-situ Groundwater Bioremediation	
Education	Indian Institute of Technology Bombay , Mumbai, India <i>Department of Civil Engineering</i> PhD (July 2015 - Feb 2021) <ul style="list-style-type: none">• Thesis Title: Simulation-Optimization Models Based on Meshless Method and Metaheuristic Algorithms for In-situ Bioremediation of Groundwater Contamination• Supervisor: Prof. T. I. Eldho• CPI 10 Indian Institute of Technology Guwahati , Assam, India <i>Department of Civil Engineering</i> MTech, July 2013 - July 2015 <ul style="list-style-type: none">• Thesis Title: Simulation of Advective-Dispersive Transport in a Porous Medium using the Operator Splitting Technique• CPI 9.51 National Institute of Technology Hamirpur , Himachal Pradesh, India <i>Department of Civil Engineering</i> BTech, 2007 - 2011 <ul style="list-style-type: none">• CGPI 8.15	
Scholarships and Awards	Commonwealth Split-site PhD Scholarship 2017 PhD Scholarship from Ministry of Education for 5 years M.Tech. Scholarship from Ministry of Education for 2 years	
Research Experience	University of Manchester , Manchester, United Kingdom <i>Department of Mechanical, Aerospace and Civil Engineering</i> Postgraduate Research (PGR) Visiting Scholar, Sep 2017 - Sep 2018 <ul style="list-style-type: none">• Supervisor: Dr. Andrea Bottacin-Busolin	
Professional Experience	Indian Institute of Technology (ISM) Dhanbad , Jharkhand, India <i>Assistant Professor, Department of Environmental Science and Engineering</i> April, 2021 - Present National Institute of Technology Hamirpur , Himachal Pradesh, India <i>Lecturer (On Contract), Civil Engineering Department</i> August, 2012 - July, 2013 Gammon India Limited , Mumbai, India <i>Civil Engineer</i> June, 2011 - August, 2012	
Software Skills	MATLAB, LaTeX, Groundwater Modeling System (GMS) Software (MODFLOW, MT3DMS, RT3D)	

Journal Publications

Pathania T. and Eldho, T. I. (2020). A moving least squares based meshless element-free Galerkin method for the coupled simulation of groundwater flow and contaminant transport in an aquifer. *Water Resources Management*, 34: 4773–4794.

Pathania, T., Eldho, T. I. and Bottacin-Busolin, A. (2020). Coupled simulation of groundwater flow and multispecies reactive transport in an unconfined aquifer using the element-free Galerkin method. *Engineering Analysis with Boundary Elements*, 121:31–49.

Pathania, T., Eldho, T. I. and Bottacin-Busolin, A. (2020). Optimal design of in-situ bioremediation system using the meshless element-free Galerkin method and particle swarm optimization. *Advances in Water Resources*, 144:103707.

Pathania T., Bottacin-Busolin A., Rastogi, A.K. and Eldho, T. I. (2019). Simulation of groundwater flow in an unconfined sloping aquifer using the element-free Galerkin method. *Water Resources Management*, 33: 2827-2845.

Conference Papers

Pathania, T., Eldho, T. I., and Bottacin-Busolin, A. (2021). Effect of soil heterogeneity on the optimal design of in-situ groundwater bioremediation systems, *EGU General Assembly 2021*, online, 19–30 April 2021.

Pathania T. and Eldho, T. I. (2020). Optimal in-situ bioremediation system design for contaminated groundwater using meshless EFGM simulation and PSO. *World Environmental and Water Resources Congress, ASCE*.

Pathania T. and Eldho, T. I. (2019). Simulation of aerobic biodegradation of a hydrocarbon contaminant in the groundwater using the element-free Galerkin method. *ISH - HYDRO 2019 International Conference*. Osmania University, Hyderabad, India, 18-20 December, 2019.

Pathania T. and Eldho, T. I. (2019). Meshless simulation of multispecies reactive transport in a porous medium using the element-free Galerkin method. *International Groundwater Conference (IGWC-2019)*. IIT Roorkee, Roorkee, India, 21-24 October, 2019..

Pathania T., Bottacin-Busolin A. and Rastogi, A.K. (2018). Simulation of coupled groundwater flow and contaminant transport in a confined aquifer using the meshless element free Galerkin method. *EGU General Assembly*. Vienna, Austria, Vienna, 8-13 April, 2018..

Pathania T. and Rastogi, A. K. (2017). Groundwater flow simulation in confined aquifer by meshless element free Galerkin method. *10th World Congress of EWRA on Water Resources and Management*. Athens, Greece, 5-9 July, 2017.

Pathania T. (2016). Simulation of advective-dispersive transport in a porous medium using the operator splitting technique. *Sixth International Congress on Computational Mechanics and Simulation (ICCMS 2016)*. IIT Bombay, Mumbai, India, 27 June-1 July, 2016.

Extracurriculars

Runner up in Inter Year Hockey Tournament of NIT Hamirpur in 2008.

Represented IIT Guwahati in Hockey at 49th and 50th Inter IIT Sports meet in 2013 and 2014.

Represented IIT Bombay in Hockey at 51st, 53rd and 54th Inter IIT Sports meet in 2016, 2018 and 2019.

Bronze Medal in the PG Sports 400 m Race in Athletics General Championship 2015-2016 of IIT Bombay.

Silver Medal in the PG Sports Volleyball General Championship 2016-2017 of IIT Bombay.

Awarded with Sports Special Mention by Hostel 13 of IIT Bombay in 2017 and 2019.

Silver Medal in the Hockey General Championship of IIT Bombay in 2020 (H13 Hockey Captain).