

National Institute of Technology, Tiruchirappalli: Performa for CV of Faculty/ Staff Members

Curriculum Vitae



Brief Profile:

I am Dr. Prabhakar, currently serving as an Assistant Professor in the Department of Civil Engineering at the National Institute of Technology (NIT) Tiruchirappalli, India. My research interests focus on geotechnical engineering, engineering geophysics, subsurface characterization, and hazard assessment for civil infrastructure.

I completed my Ph.D. in Civil Engineering from the Indian Institute of Technology (IIT) Gandhinagar, under the supervision of Prof. Amit Prashant, where my research focused on advanced surface wave methods and shear wave velocity (V_s) characterization for geotechnical site investigations. During my academic career, I also gained research exposure through an internship and postdoctoral research experience at the Geotechnical Engineering Department, Indian Institute of Science (IISc), Bengaluru.

Subsequently, I worked as an Institute Postdoctoral Fellow at IIT Kanpur in the research group of Prof. Animesh Mandal (Department of Earth Sciences). My research there involved shallow subsurface investigations for landslide studies using electrical resistivity tomography and electromagnetic survey techniques. I have also collaborated with Dr. Sanjay Singh Bora (Senior Scientist at GNS Science, New Zealand) to explore generalized inversion techniques for strong ground motion modelling and signal processing tools.

My expertise includes data acquisition, numerical modelling, and interpretation of geotechnical and geophysical datasets. I have developed a MATLAB-based methodological framework for estimating V_s profiles using the Multichannel Analysis of Surface Waves (MASW) technique, particularly for sloping and undulated ground surfaces. I have further extended MASW applications for detecting subsurface heterogeneities such as buried foundations and underground utilities.

I also perform numerical simulations of wave propagation in heterogeneous media using GiD and OpenSEES, and develop global optimization algorithms for improved V_s profile estimation. I have working experience with several engineering and geophysical software tools including Abaqus, ANSYS, SAP2000, RADAN7, WinMASW, SurfSeis, Res2DMod/Res2DInv, Prosys II, and Surfer.

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8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	Indian Institute of Technology Gandhinagar	2018-2024	8.54/10 (CGPA)	Civil Engineering- Geotechnical
B.Tech.	National Institute of Technology Agartala	2014-2018	9.03/10 (CGPA)	Civil Engineering
12 th	JBIC Ramnagar, Uttar Pradesh, India	2013	92.8 %	Mathematics, Physics, Chemistry, English, Hindi
10 th	JBIC Ramnagar, Uttar Pradesh, India	2011	82.2%	Mathematics, Science, Social Science, Hindi, English, Computer

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Member of Ph.D./ M.S. Admission Committee	Civil Engineering Department/ NIT Trichy	03-02-2026	Present
Member of Department meeting	Civil Engineering Department/ NIT Trichy	03-02-2026	Present

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To

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11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2025	ISSMGE foundation award to attend EGRWSE-2025 conference at University of Vigo, Spain	ISSMGE foundation
2022	Best paper award in the symposium entitled "Socio-Technological Aspect of Seismic Disaster and Mitigation (STASDM 2022)	IIT Guwahati

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2018	IIT Gandhinagar Start-Early Ph.D. Fellowship	IIT Gandhinagar	July 2018	June 2019
2017	Focus Area Science Technology Summer Fellowship	Indian Academy of Science, New Delhi	May 2017	July 2017

13. Details of Academic Work

- (i) Curriculum Development – NA
- (ii) Courses taught at Postgraduate and Undergraduate levels - NA
- (iii) Projects guided at Postgraduate level - NA
- (iv) Other contribution(s) - NA

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

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Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
March 5-7, 2019	International Association for Computer Methods and Advances in Geomechanics Symposium	International	Participant	IIT Gandhinagar	IIT Gandhinagar
June 23-24, 2022	Socio-Technological Aspect of Seismic Disaster and Mitigation	National	Participant and Paper presenter	IIT Guwahati	IIT Guwahati
November 2022	17 th Symposium on Earthquake Engineering (17SEE)	National	Participant and Paper presenter	IIT Roorkee	IIT Roorkee
December 15-17, 2022	Indian Geotechnical Conference 2022	National	Paper presenter	IGC Kochi	Kochi
March 3-4, 2023	Initiative for Geotechnical Research and Innovation Practices (iGrip)	National	Participant	IIT Gandhinagar	IIT Gandhinagar
June 25-28, 2023	9 th International Congress on Environmental Geotechnics (9ICEG)	International	Participant and Paper presenter	ISSMGE	Minoa Palace Resort, Chania, Greece
December 19-21, 2024	Indian Geotechnical Conference (IGC) 2024	National	Participant and Paper presenter	MIT Chhatrapati Sambhajinagar (Aurangabad), India	MIT Chhatrapati Sambhajinagar (Aurangabad), India
October 7-10, 2025	Geotech Asia Conference	International	Participant and Paper presenter	Indian Geotechnical Society and IIT Bombay	Goa, India
December 18-20, 2025	Indian Geotechnical Conference (IGC) 2025	National	Participant and Paper presenter	Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab, India	Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab, India

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17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue

18. Invited Talks delivered

Topic	Date	Inviting Organization
Geotechnical Investigation and Underground Pipe Failures	13 February 2025	Jal Nigam (Urban), Lucknow, Uttar Pradesh

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Indian Geotechnical Society	LM-6036
Ordinary Member	Society for Near Surface Geophysics	M2024:76

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Spain	June 8-18, 2025	6th International Conference on Environmental Geotechnology, Recycled Waste Materials, and Sustainable Engineering
Greece	June 21-30, 2023	9th International Congress on Environmental Geotechnics (9ICEG) conference

21. Publications

(A) Refereed Research Journals:

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Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
Prabhakar Vishwakarma, Amit Prashant	Application of Teaching-learning based Optimization to Estimate the Normally Dispersive Vs Profile in MASW Test	Pure and Applied Geophysics	182	4633–4655	2025	1.9
Prabhakar Vishwakarma, Amit Prashant	Buried Object Detection using Cross-Correlation and Wavelet Coherence Analysis of MASW Datasets	Acta Geophysica	73	4165–418	2025	2.1
Prabhakar Vishwakarma, Sanjay Singh Bora, Amit Prashant	Analysis of shear wave velocity estimation using MASW on sloping grounds	Acta Geophysica	73	359–378	2024	2.1
Prabhakar Vishwakarma, Sanjay Singh Bora, Amit Prashant	Variability of Multisensor Response of MASW test on Undulated Grounds: A Numerical perspectives	Journal of Applied Geophysics	226	1-20	2024	2.1
Prabhakar Vishwakarma, Amit Prashant	Hard Sandwiched Soil Strata Detection with Higher Modes using MASW Tests	Geotechnical and Geological Engineering	42	5519–5538,	2024	2.0

(B) Conferences/Workshops/Symposia Proceedings

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Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Prabhakar Vishwakarma, Silky Agrawal	Site Investigation in a High Landslide-Risk Zone of Southern Assam using Seismic Refraction and Electrical Resistivity Tomography: A Case Study	Indian Geotechnical Conference (IGC) 2025		Site Investigation	Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab, India	2025
Prabhakar Vishwakarma	Impact of Probability Density Function on TLBO converged Shear Wave Velocity Profile in MASW Test	Geotech Asia 2025	1-6	Site Characterization	Taj Cidade de Goa Horizon, Goa	2025
Prabhakar Vishwakarma, Animesh Mandal	Geoinfrastructural Sustainable Approach for Identifying Shallow Subsurface Sandwiched Layers through ERT and MASW Techniques	6th International Conference on Environmental Geotechnology, Recycled Waste Materials, and Sustainable Engineering		Sustainable Geotechnology	Vigo, Spain, Spain , Vigo	2025
Prabhakar Vishwakarma, Amit Prashant	Exploring Liquefaction Susceptibility of Northern Gulf of Kutch Region in Gujarat Through MASW Analysis: A Case Study	Indian Geotechnical Conference (IGC) 2024	41-51	Geotechnical And Geophysical Investigation	MIT, Chhatrapati Sambhajinagar (Aurangabad) India	2024
Prabhakar Vishwakarma, Amit Prashant	Correlation between Shear Wave Velocity (Vs) and corrected SPTN for Bharuch	9th International Congress on Environmental Geotechnics (9ICEG)		Site Investigation	Chania, Greece	2023

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	Region using MASW technique	conference				
Prabhakar Vishwakarma, Siva Ram Karumanchi	Modeling of Semi-mechanistic approach for Geo-synthetic Reinforced Flexible Pavement Design	9th International Congress on Environmental Geotechnics (9ICEG) conference		Numerical Modelling	Chania, Greece	2023
Prabhakar Vishwakarma, Amit Prashant	Accuracy Analysis of Shear Wave Velocity Profile by Semicircular MASW and Seismic Downhole Tests	2nd EAGE/Aqua Foundation Indian Near Surface Geophysics Conference & Exhibition	1-5	Geophysical Exploration	Delhi	2023
Prabhakar Vishwakarma, Silky Agrawal, Amit Prashant	An Effective Frequency Filtering Approach to Improve GPR Data Resolution Under the Concrete Pavements	Indian Geotechnical Conference (IGC) 2022	207–218	Geotechnical, Geological and Geophysical Investigation	LE MERIDIEN KOCHI	2022
Somnath Paul, Prabhakar Viswakarma, Amit Prashant	Estimation of Normal, Inverse, and Irregular Earth Profile Using Different Global Optimization Techniques from Active MASW Survey	16th International Association for Computer Methods and Advances in Geomechanics (IACMAG),		Computational geomechanics	Politecnico di Torino Conference Centre, Italy , Torino	2022
Prabhakar Vishwakarma, Sanjay Singh Bora	Estimation of seismological parameters using generalized inversion technique	Socio-Technological Aspects of Seismic Disaster and Mitigation (STASDM) 2022		Hazard Mitigation	IIT Guwahati	2022

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(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number