



Dr. N. DEVARAJ M.Sc. (NCT), M.Tech. (DRS), Ph.D. (IIT - KGP) Assistant Professor, National College (Autonomous)

Dedicating as an Assistant Professor March 2024 to till date, adept in diverse geology domains. Eager to leverage expertise in seismic risk assessment, GIS, and remote sensing for impactful contributions at IIT Kharagpur. Passionate about merging academic excellence with research, aiming to enhance Earth science initiatives at the intersection of education and innovation.

Contact

D.O.B.: 25.05.1985

Category: BC

Address:

No. 4, Vellikilamai Salai
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Educational Details

Ph.D., - Geology & Geophysics (2017)
Indian Institute of Technology - Kharagpur

**M.Tech., - Geological Remote Sensing
and Geoinformatics (2009)**
Bharathidasan University, Trichy

M.Sc., Applied Geology (2007)
National College, Tiruchirappalli

B.Sc., Geology (2005)
National College, Tiruchirappalli

GEO Instruments Handling

- Total Station
- Auto Levelling
- Tachyeometry
- Brunton Compass
- Plane Table & Chain
- GPS, GPR & Geophone
- Resistivity Meter
- Seiscom - MR
- MASW Analysis

GEO Softwares Expert

- Arc GIS
- ENVI
- ERDAS
- PCI GEOMATICA
- DEEP SOIL
- ROCKWARE
- SURFER
- CorelDraw & Photoshop
- SELENA
- HAZUS

Professional Experience

Assistant Professor & Head (UAP) **from 2022 to Feb,2023**
Assistant Professor & Placement Cell (UAP) **from 2022 to present**
Assistant Professor & Vice - President (UAP) **2022 - 2023**
Assistant Professor (UAP) **JUNE _ 2018**
Project Staff "Project Code: VRA" IIT - Kharagpur **2015 - 2016**
Senior Research Fellow"Project Code: KSM" IIT - Kharagpur **2011 - 2015**
Senior Research Fellow"Project Code: FBP" IIT - Kharagpur **2010 - 2011**
Senior Research Fellow" Project Code: SMS" IIT - Kharagpur **2009 - 2010**
Total Research cum Academic Experience Since 2009 to 2023

Area of Teaching

- Disaster Management & Environmental Geology
- Geophysics and Field Geology
- Instrumental Geology and its Specification
- Mining & Engineering Geology
- Hydrogeology and Structural Geology
- Surveying and Mapping
- Geoexploration and Geotectonics
- Remote Sensing, GIS and GPS

Area of Research Specification

- Earthquake and Landslide Hazard, Vulnerability and Risk
- Disaster Management and Mitigation Modeling Analysis
- Remote Sensing & GIS, Geophone and GPR
- Seismo-Geotectonics
- Hydrogeology and Well Logging
- Microzonation hazard Mapping Techniques on GIS Platform

Research cum Academic Activities

- Research Publications - **06**
- Workshops and Seminars - **08**
- Research Guidance - M.Sc., **(06)**
- Faculty Development Program - **02**
- Geology Association Meeting - **03**
- Career Development Meet - **02**
- Field Instrument cum Special Lectures - **05**
- UG and PG Field Guidance - **05 & 01**
- Question Paper Setter, Central Valuation and Chairman - **07, 06 & 03**

Future Plan and Goals

Expertise in Disaster Management, Environmental Geology, and extensive research in Earthquake, Landslide, Drought, Hazard, Remote Sensing, and GIS. Committed to advancing geosciences education and contributing impactful research to your Institution.



Dr. N. DEVARAJ M.Sc. (NCT), M.Tech. (CERS), Ph.D.(IIT KGP)

Assistant Professor

Department of Geology (UAP) National College, (Autonomous)

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Career Objective

- To obtain a position with a progressive organization (IIT Kharagpur) in the field of Seismic vulnerability and risk assessment on GIS Environment and Remote Sensing & GIS / GPS, UAV (Center for Excellence in Remote Sensing, Trichy) and with Earth science (Geology, National College, Trichy) and where in value addition is for both academic and research.

Educational Qualification

Examination	Board/ University	Institution	Year of Passing	Performance	Class
Ph.D., (Seismic Hazard, Vulnerability and Risk Assessment on GIS Environment)	Indian Institute of Technology, Kharagpur, West Bengal	IIT-Kharagpur	2017	CGPA 7.8 (Ph.D course work)	Awarded
M.Tech., (Geological Remote Sensing & Geoinformatics)	Bharathidasan University, Trichy, Tamilnadu.	Center for Remote Sensing Trichy - 23	2009	78.80 %	First Class With Distinction
M.Sc., (Applied Geology)	Bharathidasan University, Trichy, Tamilnadu.	National College Trichy - 1	2007	81.80 %	First Class With Distinction
B.Sc., (Geology)	Bharathidasan University, Trichy, Tamilnadu.	National College Trichy - 1	2005	68.45 %	First Class
H.S.C	Board of Higher Secondary Education, Tamilnadu.	Govt. Hr. Sec. School, Ammapalayam, Perambalur.	2002	64.75 %	First Class
S.S.L.C	Board of Secondary Education, Tamilnadu.	Govt. High School, Ladapuram, Perambalur.	2000	58.2 %	Second Class

Area of Sound Knowledge and Variuos Institutional Experience

- Dynamic Geology (5 years, National College (A))
- Mining & Engineering Geology (6 years, National College (A) Geophysics and Field
- Geology (NCT, 6 years & IIT, Kharagpur 6 Years)
- Instrumental Geology and its Specification (6 & 5 years, IIT, Kharagpur & NCT)
- Disaster Management & Environmental Geology (6 & 2years, IIT, Kharagpur, & NCT.)
- Urban planning and Land Information System (6 & 2years, IIT, Kharagpur and CERS.)
- Earthquake and Landslide Hazard, Vulnerability and Risk Assessment on GIS Environment. (2 & 7 years, CERS & IIT, Kharagpur)
- Hydrogeology and Pollution management (2 years CERS, 6 year NCT)
- Remote Sensing, GIS and GPS. (2 & 7 years, CERS & IIT, Kharagpur) & 6 years NCT.
- Surveying and Mapping (National College 6 year's experience)
- Geotectonics and Geodynamics (CERS 2 year's experience)

Teaching Experience

- Six years (June,2018 to present) of teaching experience as an Assistant Professor in Department of Geology (Un-Aided Program), National College, Tiruchirappalli, Tamil Nadu, India.

Research Experience

Ph.D., Thesis: *“Seismic Hazard, Vulnerability and Risk of the city of Kolkata at the backdrop of Regional Earthquake Risk of the Indian Subcontinent”*

Supervisor: Prof. Sankar Kumar Nath, FNAE, FNASc, FIGU, Professor (Higher Administrative Grade), Department of Geology & Geophysics, IIT Kharagpur, West Bengal, India-721302.

The main aim of the research work evolved: Regional to the local level analysis of vulnerability and damage scenario vis-à-vis seismic risk model in urban Kolkata, India. The research protocol expedites by gathering information about the block level existing building stock and the expected damage, which is highly needful to identifying vulnerable in buildings in order to mitigate the seismic risk. This study addresses the rapid evaluation of a large number of exposures in the area of Kolkata city. The step includes determination of the hazard, vulnerability and generation of damage scenario and loss estimation for the hazard in the examination.

M.Tech Thesis: Major research project on *“Geomatics based identification of soil erosion and reservoir siltation zones, parts of Thiruvannamalai, Thindivanam, Villupuram, Cuddalore and Pondicherry districts of Tamilnadu”*.

Guide: Dr. K. Palanivel, Assistant Professor, Centre for Remote Sensing, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India.

M.Tech Thesis: Short term project on *“Tectonic history of parts of Western Ghats using Remote Sensing and GIS”*

Guide: Dr. C. J. Kumanan, Head of the Department, Centre for Remote Sensing, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India.

M.Sc. Thesis: Research project on **“A study of well logging in an around Thirukkunurpatti village in Tanjore district by using Geophysical Electrical Resistivity Method”**.

Guide: Dr. D. Srinivasan, Associate Professor, Department of Geology, National College, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India.

Professional Experience

- January, 2009 to June, 2016: Working in a project entitled **“Seismic Hazard Assessment, Microzonation, and Evaluation of Vulnerability, Risk & Socio-Economic Impacts for the City of Kolkata”** as a Senior Research Fellow (SRF) funded by Ministry of Earth Science (MoES), at Indian Institute of Technology, Kharagpur (IIT Kharagpur).
- **Assistant Professor** of Department of Geology, National College, Tiruchirappalli from 2018 to till date.
- **Head of the Department of Geology (UAP)** during 2022 to till date National College, Tiruchirappalli as a management staff.

Practical Field Experience

- **Kolkata, West Bengal [2013]:-** MASW survey carried out using McSEIS-SW instrument for seismic vulnerability study.
- **Kolkata, West Bengal [2011-2013]:-** Rapid Visual screening more detailed Surveys carried out using Handheld GPS for earthquake vulnerability study (vulnerability components of detail structural elements and land use of the each site).
- **Kolkata, West Bengal [2011-2012]:-** Ambient Noise / Microtremor Survey carried out using SYSCOM for earthquake vulnerability study.
- **Thiruvannamalai, Thindivanam, Villupuram, Cuddalore, Tamilnadu [2008]:-** Different level of reservoirs/Tanks siltation measurement. Also have a practical experience on GPS during in different temporal time.
- **National college, Trichirapalli (2018 to present):** Various instruments survey, data Acquisition and interpretation with mapping (Chaining survey, plane table survey, Brunton compass, Auto leveling survey, GPS survey, Total survey and Theodolite survey

Instrumental Experience

Instrument Name	Study performed	Period	Nature of use
MASW-McSEIS-SW	Kolkata City	12 months	Effective Shear wave velocity and Site Amplification.
SYSCOM	Kolkata City	15 months	To find out Predominant frequency
Handheld GPS & DGPS	Kolkata City & Some parts of Tamil Nadu	18 months & 7 Days	Prepare different thematic components such as building height, typology, density, age, occupancy types and landuse plan etc.

Electrical Resistivity (Wenner method) & Seismic Survey	In and Around Tamilnadu	4 years 3 years	Target to the ground water suitable area with different depth wise as well as different terrain.
Chaining Survey	National College	6 years	Profit to measure the land distance in regular and irregular form.
Plane table Survey	National College	6 years	Profit to measure the land distance in regular and irregular form.
Auto leveling Survey	National College	6 years	Profit to measure the land distance in regular and irregular form. Also use to distribute the ground horizontal and vertical profile variation.

Field Exposures

Place/ Organization visited	Period	Nature of Job
Field visit at Bangalore and Hyderabad to visit GSI and RRSSC (Bangalore) and also at NRSC . The main aim is to get familiar with geology and to know the latest methodology used for the interpretation.	10 days	Technical visit
Field trip to Kadavur Near Trichy to study about structural mapping in that area.	2 days	Structural Mapping study
Geological trip to Madhya Pradesh (includes NBSS-Nagpur, Jharia Coal field in Udaipur, Zawar mines in Rajasthan and manganese ore body mine).	12 days	Field work
Lithological Mapping in and around the parts of Ariyalur stage formation , Tamilnadu.	12 days	Mapping work
Field trip to visit to Salem at Tamilnadu (Includes Parts of Salem District).	5 days	Field work
Paleontological study of Cretaceous and Gondwana Formation , Ariyalur, Tamilnadu.	3 days	Field work

Papers Published in Journals:

1. Nath, S. K., Thingbaijam, K.K.S., Adhikari, M. D., **Devaraj, N.**, Nayak, A., Ghosh, S. K., and Mahajan, A. K (2013). ***Topographic gradient based site characterization in India complemented by strong ground motion spectral attributes by Soil Dynamics and Earthquake Engineering***, 55, 233-246.
2. Nath, S. K, A. Ghosh, M. D. Adhikari, P. Sengupta, S. K. Maiti, N. Srivastava, **N. Devaraj** and K. Bera (2013). ***“Seismic Hazard of West Bengal with Special Emphasis on the Hazard, Vulnerability & Risk Microzonation of Kolkata”***, A Bulletin of Indian Geotechnical Society, 4(1), pp 3-5.
3. Nath, S. K., M. D. Adhikari, S. K. Maiti, **N. Devaraj**, N. Srivastava and L. D. Mohapatra (2014). ***Earthquake Scenario in West Bengal with emphasis on Seismic Hazard Microzonation of the city of Kolkata, India***, Nat. Hazards Earth Syst. Sci.14, 2549-2575, doi:10.5194/nhess-14-2549.

4. Nath, S. K., Adhikari, M. D., **Devaraj, N.** and Maiti, S. K (2015). ***Seismic vulnerability and risk assessment of Kolkata City, India by Natural Hazards and Earth System Sciences***, Vol.15, 1103-1121.
5. Sankar Kumar NATH, Chitralekha Ghatak, **N. Devaraj** (2017). ***Earthquake induced Deterministic Damage and Economic Loss Estimation for Kolkata, India. Journal of Rehabilitation in Civil Engineering (Under review)***.

Workshop

- Participated UGC SPONSORED WORKSHOP ON “**Current Trends in Research on Quaternary Sea-Level Changes**” held on 5th and 6th December 2003 in the Department of Geology, National College, Tiruchirappalli, and Tamilnadu.
- National Workshop on “Detailed Petrology Through Innovative Modern Techniques in Thin Section Preparation and Petrographic Studies” Organized by PG & Research Department of Geology in association with Chennai Metco on 20th February, 2020.
- 5 Days workshop on “Paleoclimate Education using Geo-Spatial Methods: Geological past to Anthropocene” organized by Department of Remote Sensing, Bharathidasan University, Tiruchirappalli, held on 3rd to 7th December 2018.

Seminar/Presentations

- Faculty Development Programme “**Exploring Innovation in Personal and Institutional Development**” held during 5th to 12th June 2023, Organized by Internal Quality Assurance Cell (IQAC), National College (Autonomous), Tiruchirappalli.
- Resource person during “**Young Student Scientist Program - YSSP 2018**” organized by National College (Autonomous), Tiruchirappalli and supported by State Council for Science & Technology, Department of Higher Education, Government of Tamilnadu, during 24th December 2018 – 07th January 2019.
- Presented Seminar on “***Seismic Hazard, Vulnerability and Risk of the city of Kolkata at the backdrop of Regional Earthquake Risk of the Indian Subcontinent***” at Department of Geology & Geophysics, IIT Kharagpur. (2016).
- Presented Seminar on “***Seismic Vulnerability and Risk Assessment of the city of Kolkata***” at MoES, Research meeting in Kolkata, IIT. Extension Center (2015).
- Poster Presentation in the topic entitled “***Seismic Hazard Vulnerability and Risk Scenario in Northeast India including Bhutan with special emphasis to Sikkim-Himalaya***” at Department of Geology & Geophysics, IIT Kharagpur. (2011).
- Presented Seminar on “***Geomatics based identification of soil erosion and reservoir siltation zones, parts of Thiruvannamalai, Thindivanam, Villupuram, Cuddalore and Pondicherry districts of Tamilnadu***”, as a part of M.Tech., dissertation work at Center for Remote Sensing & GIS, Bharathidasan University, Tamil Nadu (2009)

Award

- 7 years, **Senior Research Fellow** (July, 2009 to June, 2016) at IIT-Kharagpur, West Bengal in various projects with MoES funding Agency.

Roles in Academic Activities

- Contributing as a Placement Cell in the Department of Geology (UAP), National College (Autonomous), Tiruchirappalli during 2021 to till date.
- Served as a Vice-President in the Department of Geology Association Un-Aided Program during 2022 - 2023.
- Contributed as an instructor for Geological Field Instructional cum Industrial Trip to the UG and PG students from 2018 to 2023.
- Contributed as an instructor for Geological Field Mapping Guidance for Postgraduate Students 2023.
- Actively guided Research Guidance to Postgraduate students on the field of Agro Geology, Reservoir Siltation, Mining Geology, Hazards Mitigation and Remote Sensing & GIS.
- Served as a resource person to the UG and PG students especially for competitive examinations and carrier development.
- Served as a resource person to the young Student Scientists program, especially for competitive examinations and placement development.
- As a tutor ward in-charge system to 2018 - 2023 for UG and PG students. I arranged special lectures from various geology discipline to the development of students benefits.
- Contributed as a Resource person to UG and PG students field hand held instrument techniques Multi-corer sampling, Grab and Gravity sampling, Hydrological kits, Brunton compass and its applications.

Roles in Academic Activities

- Act as a **Question Paper Setter** to Undergraduate Examinations for November 2023, A.D.M. College for Women (Autonomous), Nagapattinam on 16/09/2023.
- Attended as a **central valuation Examiner** for November 2022 to A.D.M. College for Women (Autonomous), Nagapattinam on 22/12/2022.
- Act as a **Question Paper Setter** to Undergraduate Examinations for November 2022, A.D.M. College for Women (Autonomous), Nagapattinam on 15/10/2022.
- Act as a **Question Paper Setter** to Undergraduate Examinations for April 2022, A.D.M. College for Women (Autonomous), Nagapattinam on 02/05/2022.
- Act as a **Question Paper Setter** to Undergraduate Examinations for April 2021, A.D.M. College for Women (Autonomous), Nagapattinam on 08/03/2021.
- Act as a Question Paper Setter to Undergraduate Examinations for November 2021, A.D.M. College for Women (Autonomous), Nagapattinam on 25/10/2021.
- Attended as a **central valuation Examiner** cum chairman for November 2022 to Bharathidasan University, Tiruchirappalli on 09/01/2023.

Guidance of M.Sc. Dissertation

S.No.	Reg. No.	Students Name	Title of the Dissertation	Month & Year
1.	GYP A21020	T. Elamathi	Soil Quality Monitoring and Recommended Mineral Fertilizers in Kulathur Village, Thoothukudi District, Tamilnadu, India	April 2023
2.	GYP A21005	R. Yeshwanth Rajh	Enhancing the Geospatial Mapping Adopting Global Positioning System (GPS), Ground Penetration Radar (GPR) and Geographical Information (GIS)	April 2023
3.	GYP A21018	S. Kishore	An Attempt on Mine Planning and Mine Safely by using Geophysical Resistivity Survey at Sankar Taluk, Salem District, Tamilnadu, India	April 2023
4.	GYP A20007	P. Hariharan	An attempt on Soil Quality and Suggestive Mineral Fertilizers through Agrogeology in and around Kulattur Village, Thoothukudi District, Tamilnadu, India	June 2022
5.	GYP A17007	Jegatheesan	Identification of Soil Erosion Prone Area and Reservoir Siltation Level at Various Districts of Eastern Part of Tamilnadu: Using Remote Sensing and GIS	April 2019

Technical Skills:

Computer knowledge

Packages/Software

Digital Image Processing

MS Office, Linux

ENVI (4.7),

Arc GIS (10.5),

Erdas imagine (9.2)

PCI Geomatica

MapInfo 9.1.

Surfer

Deepsoil 4.0

SELENA

HAZUS

Photoshop

CorelDrawX6

Mat Lab etc.,

Soft Skills

Fluency, Group Discussions, Interview and Presentation etc.,

Personal Details

Father's Name : P. Nataraj

Gender : Male

Date of Birth : 25/05/1985

Nationality : Indian

Languages Known : English, Tamil (speaking & writing) and Hindi (speaking)

Hobbies : Reading Books, Sports and listening music.

References

Name	Designation and Address	Contact Details
Prof. K. Anbarasu Role: M.Sc., Class Tutor	Former Principal and Director, National College (Autonomous), Tiruchirappalli - 01, Tamil Nadu.	Phone No.: 9345783040
Assoc. Prof. D. Srinivasan Role: M.Sc. Supervisor	Associate Professor and Former Head, Department of Geology, National College (Autonomous), Tiruchirappalli - 01, Tamil Nadu.	Phone No.: 9442359716 Email: dsriinivasangeo@gmail.com
Prof. Sankar Kumar Nath Role: Ph.D. Supervisor	Former Head Department of Geology and Geophysics, IIT-Kharagpur, West Bengal.	Phone No.: 9434005953 Email: nath@gg.iitkgp.ernet.in
Prof. K. Palanivel Role: M.Tech. Supervisor	Professor, Former Head, Department of Remote Sensing, Khajamalai Campus Bharathidasan University, Tiruchirappalli - 23, Tamil Nadu, India.	Phone No.: 94433 78145 Email: kkpvlcers@bdu.ac.in

Declaration

This is to certify that I the undersigned, **Dr. N. Devaraj** hereby declare that the information given above is true and correct to the best of my knowledge.

Date:
Place: Trichy

Dr. N. Devaraj