Dr. N. DEVARAJ M.Sc., M.Tech., Ph.D.,

Assistant professor
Department of Geology (UAP)

Present Address	Permanent Address
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Education

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	2016	**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.	Ammapalayam Hr.Sec.School, Perambalur.	2002	**64.75 %**	**First Class**
S.S.L.C	Board of Secondary Education, Tamilnadu.	Ladapuram High School, Perambalur.	2000	**58.2 %**	**Second Class**

Area of sound knowledge and institutional experience

- Structural and Geotectonics (2 years, National College)
- Dynamic Geology (2 years, National College)
- Mining & Engineering Geology (2 years, National College)
- Geophysics and Field Geology (6 years, IIT,Kharagur)
- Instrumental Geology and its Specification (6&2years,IIT,kharagur&National College)
- Disaster Management & Environmental Geology, (6&2years, IIT, Kharagpu&CERS.)
- Natural Resource Management (2 years, CERS, Bharathidasan University)
- Urban planning and Land Information System (6 & 2years, IIT, Kharagur 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, Bharathidsan University)
- Remote Sensing & GIS and GPS. (2&7 years, CERS & IIT,Kharagur)

Career Objective

- To obtain a position with a progressive organization in the field of Seismic vulnerability and risk assessment on GIS Environment and Remote Sensing & GIS / Science with Earth science and where in value addition is for both.

Teaching Experience

- Two and half years (June,2018 to present) of teaching experience in Department of Geology, National College, Tiruchirapalli, 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**

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

Professional Experience

- January, 2010 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).

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 plots (Chaining survey, plane table survey, Brunton compass, Auto leveling survey, GPS survey and Theodloite survey*

Instrumental Experience

Instrument Name	Study performed	Period	Nature of use
MASW-McSEIS-SW	Kolkata City	**6 months**	Effective Shear wave velocity and Site Amplification.

SYSCOM	Kolkata City	**15 months**	To find out Predominant frequency
Handheld GPS	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 information etc.
Electrical Resistivity (Wenner method)	In and Around Tamilnadu	**12 months**	Target to the ground water suitable area with different depth wise as well as different terrain.
Chaining Survey	National College	**24 months**	Profit to measure the land distance in regular and irregular form.
Plane table Survey	National College	**24 months**	Profit to measure the land distance in regular and irregular form.
Auto leveling Survey	National College	**24 months**	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 toget 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 SalemDistrict).	5 days	Field work
Paleontological study of **Cretaceous and Gonduwana 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. Deveraj** 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. Nath, S. K., Srivastava, N., Ghatak, C., Adhikari, M. D., Maiti, S. K., **Devaraj, N**., Ghosh, A., Majumdar, R., Das, D., and Sengupta, P (2016). ***Site Condition Assessment in the City of Kolkata, India****. Soil Dynamics and Earthquake Engineering, (Under review).*

6. Nath, S. K., Adhikari, M. D., Maiti, S. K., **Devaraj, N** (2016). ***Seismic Hazard and Risk Microzonation of Darjeeling-Sikkim Himalaya*** *Natural Hazards, (Under review).*

7. 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, Trichirappalli, and Tamilnadu.

Seminar/Presentations

- 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.

Technical Skills:

Computer knowledge

Packages/Software	:	MS Office,
Digital Image Processing	:	ENVI (4.7),
GIS Software	:	ArcGIS (9.3), Erdas imagine (9.2), PCI Geomatica.
Others	:	9.1. MapInfo, Surfer, Deepsoil 4.0, Photoshop CS5, Coral DrawX6, etc.

Soft Skills: (Fluency, GD, Interview and Presentation)

Personal Details

Father's Name	:	P. Natraj
Gender	:	Male
Date of Birth	:	25/05/1985
Nationality	:	Indian
Languages Known	:	English, Tamil and Hindi only speaking

Hobbies: Reading Books, Sports and listening music.

References

Name	Designation and Address	Email
Prof. Sankar kumar Nath	Former Head , Department of Geology and Geophysics, IIT-Kharagpur, West bengal.	nath@gg.iitkgp.ernet.in
Associate Professor. Arindham Basu	Associate professor, Department of Geology and Geophysics, IIT-Kharagpur, West bengal.	abasu@gg.iitkgp.ernet.in
Prof. K. Anbarasu	Principal and Former Head, Department of Geology, National College, Bharathidasan University, Trichirapalli-21, TamilNadu.	principal@nct.ac.in
Associate Professor. V. Kumar	Associate Professor and Former Head, Department of Geology, Natinal College, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India.	kumarvgeol@gmail.com