CURRICULAM VITAE

1. **Name & designation of the candidate** : DR. SUMIT KUMAR MITRA, DIRECTOR(RETD), GEOLOGICAL SURVEY OF INDIA
2. **Date of Birth** : 9th April, 1954 (09-04-1954)

3. **Department / Organisation to which attached** : Guest Scientist,
Department of Geology,
Ballygunge Science College,
University of Calcutta.

4. **Address of Communication** : 284/1A, N.S.C.BOSE ROAD,
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5 **Biographical information (Beginning with Bachelor Degree)** :

(i) Academic Qualification: :

DEGREE	YEAR	UNIVERSITY / INSTITUTE
(a) BSc(Hons) Geology	1974	Presidency College, Calcutta University
(b) Msc Applied Geology	1977	Indian Institute of Technology Kharagpur, 1st Class, Rank 4th.
(c) Ph.D.	1987	IIT Kharagpur. Thesis entitled "**Structural History of the rocks of the Delhi group around Todgarh, Central Rajasthan**" under **Prof. K.Naha, DSC, FNA F.A.Sc. Jawaharlal Nehru Fellow (1986-87)**

(ii) Positions held :

INSTITUTION	YEAR	POSITION
(a) IIT Kharagpur	Oct'77-May'80	Junior Research Fellow (C.S.I.R.) under Prof. K.Naha, Dept. of Geology & Geophysics, I.I.T. Kharagpur.
(b) GSI	Joined 29-05-80	Geologist (Jr.)
(c) GSI	13-02-98	Geologist (Sr.)
(d) GSI	17-04-09	Director

(iii) Honours / Awards :

(a) M.Sc Applied Geology, 1st Prize for M.Sc Thesis 1977.

(b) **Obtained 'A' grade** from GSI Training Institute, Vth Orientation Course (1980-81)

(c) **Awarded Medal for the Best Paper 1987** by the Geol.Mining & Metallurgical Soc. of India for the paper entitled **"Structural history of the Rocks of the Delhi group Around Todgarh, Central Rajasthan".**

(iv). Training Undertaken

(a)Vth Orientation Course (1980-81), GSI Training Institute

(b)Analytical Chemistry, GSI Training Institute

(c)Air Bourne Geophysical Data Interpretetion, GSI Training Institute

(d) Application of GPS in Crustal Deformation, GSITI, Lucknow March 2003

6. **(i) Field of specialization** :

(a) Structural Geology, Precambrian Geology

(b) Marine Geology - Especially on off shore Heavy Mineral Deposits off East Coast of India, Andaman Sea and Barren Volcanism.

(c) Large scale mapping, geological & geochemical prospecting for base metal, control of mineralisation.

7. (I) (A) PAPERS - IN REFERRED JOURNALS "NATIONAL & INTERNATIONAL"

1.	**K. Naha,** **S.K.Mitra,** **T.K.Biswal**	Structural history of the Rocks of the Delhi Group Around Todgarh, Central Rajasthan	**Indian Journal of Geology, Vol. 59, No. 2, pp 126-156, 1987.**
2.	**K. Naha,** **S.K.Mitra,** **D.Mukhapadhyay** **R.Mohanty** **T.K.Biswal**	Significance of Contrast in the early stages of the structural history of the Delhi and the Pre-Delhi rock groups in the Proterozoic of Rajasthan, Western India	**Techtonophysics, 105,pp193 206, 1984.**
3.	**S.K.Mitra**	Structural History of the Shillong Group of rocks, around Sohiong, E.K.Hills, Meghalaya.	**Ind. Jour. Of Geology. Vol.70 (1&2), pp 123 –131, 1998.**
4.	**S.K.Mitra,**	Control of Lead-Silver mineralisation, Mawmaram Area, E. K. Hills District, Meghalaya.	**Indian Minerals, Dec. 1999,Vol.53, No 3 &4,pp 223 234**
5	**S.K.Mitra,**	Structure, Sulphide mineralisation and age of the Shillong Group of rock, Meghalaya	"M.S.Krishnan Commemorative National Seminar" Volume.
6.	**S.K.Mitra,**	Preliminary Investigation for basemetals and gold in Tyrsad-Mawphlang sector, E.K.Hills, Meghalaya (P-I Stage) F.S. 1995-96.	Ext. Abs. GSI, Rec. 130, Part IV, 1995-96.
7.	**S.K.Mitra,**	Preliminary Investigation for basemetals and gold in Tyrsad-Mawphlang sector, E.K.Hills, Meghalaya (P-I Stage) F.S. 1996-97.	Ext. Abs. GSI, Rec. 131, Part IV, 1996-97.
8.	R. Sengupta, S.Bhattacharyya, R.S. Rana**,** **S.K.Mitra, &** V. K. Jain	Preliminary studies of off shore heavy mineral placers, Gopalpur - Chatrapur Coast, Orissa	**Ind. Jour of Geol. vol. 62, no 1, p 27-37, 1990**.
9.	R. Sengupta, S. M. Khalil, S. Rakshit, D. K. Deb Roy, J. K. Sinha, **S.K.Mitra,** S. Mujumdar, S. Raghav & S.Bhattacharyya	Multimineral Placer deposits in the Inner shelf off Orissa Coast.	**G.S.I. Spl. Publication No. 29 135-143p(1992).**
10.	R. Sengupta, S.Bhattacharyya, R. S. Rana, **S.K.Mitra,**	Placer sands in the territorial waters off Gopalpur and Puri- Devi River Sectors, East Coast	G. S. I. Marine wing, Newsletter, vol. III,No. 2, 1987
11.	R. Sengupta, S. M. Khalil, D. K.DebRay, **S.K.Mitra,** S.Bhattacharyya	Heavy mineral placers off Orissa Coast- Prospect and potential	G. S. I. Marine wing Newsletter Vol. VIII, No. 1 (1992).
12.	R. Sengupta, **S.K.Mitra,** S.Bhattacharyya	Is sediment Discharge by Mahanadi Palpably Sluggish?	G. S. I. Marine Wing Newslette Vol. X, No. 2, 3-4p (1994).
13.	P.K.Banerjee **S.K.Mitra,** P.Chatterjee B.K.Saha et.al**.**	A sinking volcano in the Andaman Sea	G. S. I. Marine Wing Newslette Vol. III, NO. 2, 1987

14.	N.C.Bhattacharyya S.K.Ghosh J.P.Kumar P.K.Mitra **S.K.Mitra,** A.K.Samaddar	Geoscientific studies for Tidal Power in the Sunderbans	GSI. Marine wing Newsletter Vol.-XI No-2, 1995.
15.	**S.K.Mitra**	Gold & Silver Mineralisation in the Shillong Group of Rocks, Meghalaya.	**G.S.I. Special Publ. No. 58, pp-133-141. National Semina On 'Exploration Survey For Noble Metals & Precious Stones", Hyderabad 2001.**
16.	**S. K. Mitra ,** S C. Mitra	Tectonic Setting Of The Precambrians of the NE India (Meghalaya Plateau & Age of the Shillong Group of Rocks .	**G.S.I. Sp. Publ. No 64, pp. 653-658, 2001. National Seminar on Recent Advances in the Field of Earth Science & their Implication in National Development, Nagpur**
17.	**S. K. Mitra**	Quartzite Hosted Lead (+ Silver) Mineralisation in the Middle Proterozoic Shillong Group of Rocks , Meghalaya.	Abstract Vol., on National Seminar on Mineral Exploratio & Surveys, Jaipur 2001.
18.	**S.K.Mitra**	Tectonic setting of the Meghalaya Plateau and its sulphides minealisations.	Jour. Geol.Soc.India. Vol.56, pp.117-118.2005
19	A.Bandopadhyay **S,K. Mitra**	Quaternary Sealevel changes & their Geological Implications with Special Ref. To Indian Coast	G.S.I. Sp. Publ. No. 65(Vol III) National Smyposium " Role of Earth Sceinces in Intrigated Development & Related Social Issue " , Lucknow, 2001.
20	P.C.Bandopadhyay, **S.K.Mitra &** Tapan Pal & S.Raghav	The 2005 Eruption of Barren Island, Andaman Sea.	**Current Science, 10th march 2006, pp 620.**
21	Tapan Pal,P.C.Bandhopadhyay,**S.K.Mitra,and** S.Raghav.	Recent eruption (2005) of Barren volcano: An Explosive inner Arc Volcanism in Andaman Sea	**Journal of Geological Society of India,Vol.69,June 2007, p 1195-1202**
22	TapanPal, **S.K.Mitra,** P.C.Bandhopadhyay , et.al	Dacite-Andesite of Narcondam Volcano in the Andaman Sea- An Imprint of Magma Mixing in the Inner Arc of the Andaman- Java Subduction System	**Jour. Of Volcanology and Geothermal Research, Vol.168,pp-93-113,2007**
23	**S.K.Mitra**	A Recent encounter with the Fuming Barren.	G. S. I. Marine Wing Newslette Vol. XIX, NO. 2, Sept 2005.
24	Tapan Pal , Sanjeev Raghav , Anindya Bhattacharya , P.C. Bandopadhyay , **Sumit K. Mitra ,** M.L. Renjit , M.S. Sankar , Biswajit Ghosh	The 2005ï 2006-eruption of the Barren Volcano, Andaman Sea: Evolution of basaltic magmatism in island arc setting of Andamanï Java subduction complex	**Journal of Asian Earth Sciences 39 (2010) 12–23**
25	R.Sengupta, SamitBhattcharyya, **S.K.Mitra,** N.C.Sarkar.	Reminiscences of SKU-12&13 Cruise on board RV Samudra Kaustubh-a time apart in our memory.	G. S. I. Marine Wing Newslette Vol. XVIII (2) &XIX (1), Sept 2005 &March 2005.
26	**S.K.Mitra** Debapriya Adhikary	Polyphase Deformation of the Rocks of Pakhal Supergroup around Tekulapalli, Khammam Dist., Andhra Pradesh	**Ind. Jour. of Geosciences, Vol. 66, No. 2&3, pp.133-140 2012**

27	**Sumit Kumar Mitra**, Sankha Das, Devasheesh Shukla	Multiple Deformation of the Nellore Schist Belt, Pamuru Area, Prakasam Dist, Andhra Pardesh".	**Journal Geological Society of India**, vol.82, pp.443,October,2013

7. (i) (B) In conference proceedings : "National & International"

1	**S.K.Mitra**	Structural Similarity of the Rocks of the Delhi Super Group Around Beawar, Sei and Kotra, Rajasthan	**Symposium vol. on the International symposium on Structure and Dynamics on the Indian Lithosphere, at Hyderabad, 1989. (NGRI)**
2	**S.K.Mitra**	Longitudinal shortening of the Delhi Supergroup of Rocks during the Final phase of Deformation	**Seminar Volume on Evolution of Precambrian Crust of India, G. S. I., 1989.**
3	**S.K.Mitra**	Structural History of the Rocks of the Delhi Supergroup of rocks in Central & Southern Rajasthan.	**Proc. 10th Conv. Ind. Geol. Congress 1996.**
4	**S.K.Mitra**	Structure, Sulphide mineralisation and Age of Shillong Group of rock, Meghalaya	**50 years progress in Precambrian Geology Abs. Vol. 1998**
5	**S.K.Mitra**	Polyphase deformation in the Shillong Group of rock, E.K.Hills, Meghalaya.	Workshop at Dibrugarh University on North Eastern Geology. Abs. Vol. 1998.
6	R. Sengupta, S. M. Khalil, S. Bhattacharyya, S. Mujumdar, **S.K.Mitra** D. K. Deb Roy	Depositional history of the Shelf Sediments in the NE Coast of India with special reference to the offshore placer minerals occurrences, off Gopalpur (Abstract):	Workshop on Coastal, processes and Coastal Quaternaries of Eastern India, May 1989, ER, GSI.
7	**S.K.Mitra** S. Raghav	Holocene Transgression and Its Significance Around Gopalpur, Ganjam, Orissa (Abstract)	Workshop on Coastal processes and Coastal Quaternaries of Eastern India, May, 1989, ER, G. S. I.
8	**S.K.Mitra** P.C.Basu	Morophology and Geochemistry of the oolitic sands off Nanwell point, Arabian Sea	Abst.Vol. Of the Recent Geoscientific Studies in the Arabian Sea at Mangalore, G. S. I. Publ. 1988.
9	**S.K.Mitra** R.RBandyopadhya	Ferromanganese Encrustations on Baryte substrate in the Andaman Sea	**Proc. Int. Symp. On Geology and Geophysics in the Ind. Ocean, NIO, 1996**.

11	**S.K.Mitra** R.RBandyopadhyay S. Rakshit.	Mophogeochemical Characteristic of Fe- Mn Encrustation , East of Batti Malva Island, Andaman Sea.	**Seminar Vol. On National Seminar on Four Decades of Marine Geosceinces in India, A Retrospect, Mangalore, March 2001.,pp 96.**
12	**S.K.Mitra**	Prospecting for base metals and noble metal mineralisation in the Shillong group of rocks,Meghalaya	**Abst.Vol. Of National symposium on Applied geochemistry in Exploration for Minerals and Oils, Sept, 2002 page, 01.**
13	**S.K.Mitra**	Syn-Sedimentary Sulphide Mineralisation in the Shillong group of Rocks, Meghalaya	**MGMI proceedings- seminar on Mineral and Energy Resources of Eastern and Northern India, 2005 pp.253-262, Kolkata**
14	**S.K.Mitra**	Preferential enrichment of heavy minerals in the finer fractions of sands, off Chilka and Behuda River Estuary, Orissa, Bay of Bengal.	**Abst.Vol. Of International symposium on Applied geochemistry in the evaluation and management of onshore and offshore geo-resources, Sept 2005.**
15	**S.K.Mitra**	Structural history of the rocks of the Delhi Supergroup in Nothern,central and Southern Rajasthan,India.	Abst.Vol. in Workshop on Stratigraphy and structure of Delhi Supergroup in Haryana and Adjoining Areas, Faridabad,India,April,2004.
16	G.Nagendran, **S.K.Mitra,** S.K.Nayak, Rengith M.L., **A.K.Sammadder**	3D Morphometry of the Continental Shelf Margin & Upper Continental Slope off Chilka-Puri Sector , Orissa.	Proceeding Vol. of the Seminar **OMEGA 2011**, Bhubaneswar 11-12 August, 2011
17	Tripathy, V., Satyapal **and Mitra, S.K**.	Thin-Skinned Tectonics of Nallamalai Fold Belt and Structural Evolution of the Nallamalai Nappe, Cuddapah Basin, Andhra Pradeshò.	**National Seminar on "Current Trends of Research in Precambrian Geology and Vision 2020"** held at University of Mysore on March, 2013.
18	Das, S., Shukla, D., and **Mitra, S.K**	Evidences of Inclined Transpression at the contact between Vinjamuru Domain and Udaigiri Domain of Nellore Schist Belt (NSB), Pamuru area, Prakasam district, Andhra Pradeshò.	**National Seminar on "Current Trends of Research in Precambrian Geology and Vision 2020"** held at University of Mysore on March, 2013.
19	Meshram, T., **Mitra, S.K**. and Dharme, R.G	Relationship of the Granitoids in the Southern part of Nellore Schist Belt, Andhra Pradesh, India	**National Seminar on "Current Trends of Research in Precambrian Geology and Vision 2020"** held at University of Mysore on March, 2013.
20	**Sumit Kumar Mitra***, T.Meshram, Rajani G.	Uraninite associated with Thorite and REE minerals in the younger granites of Rapur area, Nellore District, Andhra Pradesh	**National Conference on Earth Sciences in India : Challenges and Emerging Trends,** at Department of Earth Sciences, IIT Roorkee, to be held on 7th to 9th November, 2013.
21	T.Meshram, **S.K.Mitra***, R.Dharme	ñPetrology, Origin and Geochemical Characters of Granitoids around Rapur, Southern part of the Nellore Schist Belt, Andhra Pradesh, India**".**	**National Conference on Earth Sciences in India : Challenges and Emerging Trends,** at Department of Earth Sciences, IIT Roorkee, to be held on 7th to 9th November, 2013.
22	Vikash Tripathy, Satyapal and **S.K.Mitra**	**"**Post-Kurnool deformations, south of the Palnad Sub-basin and their possible Pan-African correlation	**National Conference on Earth Sciences in India : Challenges and Emerging Trends,** at Department of Earth Sciences, IIT Roorkee, to be held on 7th to 9th November, 2013.
23	Sankha Das, Devasheesh Shukla and **Sumit Kr. Mitra**	**"**Pressure-Temperature Estimates from the Rocks of Vinjamuru Group and Udaigiri Group of Nellore Schist Belt (NSB), Pamuru Area, Prakasam District, Andhra Pradesh**".**	**National Conference on Earth Sciences in India : Challenges and Emerging Trends,** at Department of Earth Sciences, IIT Roorkee, to be held on 7th to 9th November, 2013.
24	**Sumit Kumar Mitra**:	Structure of the Precambrian in the Meghalaya Plateau, India	**3rd International Conference on Precambrian Continental Growth and Tectonism (PGCT-2013)** at Department of Geology, Institutw of Earth Sciences, Bundekkhand University, Jhansi, to be held on 23rd to 26th November, 2013.

25	Vikash Tripathy, Satyapal and S.K.Mitra	Extensional tectonics in the southern part of Palnad sub-basin: Implications for the evolution of Cuddapah basin	**3rd International Conference on Precambrian Continental Growth and Tectonism (PGCT-2013)** at Department of Geology, Institutw of Earth Sciences, Bundekkhand University, Jhansi, to be held on 23rd to 26th November, 201
26	) Sankha Das, Devasheesh Shukla and Sumit Kr. Mitra	The Nature of the Contact between Vinjamuru Domain and Udaigiri Domain of Nellore Schist Belt (NSB), Pamuru and Udayagiri area, Prakasam district, Andhra Pradesh.ò	**3rd International Conference on Precambrian Continental Growth and Tectonism (PGCT-2013)** at Department of Geology, Institutw of Earth Sciences, Bundekkhand University, Jhansi, to be held on 23rd to 26th November, 201

February 2009-Dec. 2011: Posted at Regional Training Institute, Eastern Region, Kolkata with additional charge of FTC Ranchi and FTC Boula

Imparting Training to the newly recruits of GSI, and carried out many refresher courses(**See Annex.)**

Jan. 2012 – April 2014: Posted as Director, STM Projects , State Unit , Andhra Pradesh, GSI, Hyderabad. Looked after the STM Projects in NFB, NSB, NSB along with its granitoids, Pakhals and published papers (see below).

Sl. No.	Title of the Paper & Abstracts	Comment
1.	**National Conference on Earth Sciences in India : Challenges and Emerging Trends, at Department of Earth Sciences, IIT Roorkee**, held on 7th to 9th November, 2013. (i) Sumit Kumar Mitra*, T.Meshram, Rajani Dharme. ñ***Uraninite associated with Thorite and REE minerals in the younger granites of Rapur area, Nellore District, Andhra Pradesh".*** (ii) T.Meshram, S.K.Mitra*, Rajani.Dharme, ***"Petrology, Origin and Geochemical Characters of Granitoids around Rapur, Southern part of the Nellore Schist Belt, Andhra Pradesh, India".*** (iii)Vikash Tripathy, Satyapal and S.K.Mitra. ***"Post-Kurnool deformations, south of the Palnad Sub-basin and their possible Pan-African correlation".*** (iv) Sankha Das, Devasheesh Shukla and Sumit Kr. Mitra. ***"Pressure-Temperature Estimates from the Rocks of Vinjamuru Group and Udaigiri Group of Nellore Schist Belt (NSB), Pamuru Area, Prakasam District, Andhra Pradesh".***	Abstract peer reviewed by the Director, Publication Division, SR, GSI, Hyderabad .
2.	**In GSI Portal** : (ii) Sankha Das, Devasheesh Shukla and Sumit Kr. Mitra. ***"First time dating of Xenotime from the metapellites of Udaigiri Group, Nellore Schist Belt, West of Pamuru, Prakasam district, Andhra Pradesh"*** ï Dated 17.04.2013.	Write up in portal sent through proper channel and reviewed by the Director, Publication Division, SR, GSI, Hyderabad.
3.	**3rd International Conference on Precambrian Continental Growth and Tectonism (PGCT-2013) at Department of Geology, Institutw of Earth Sciences, Bundelkhand University, Jhansi,** held on 23rd to 26th November, 2013. (i) Sumit Kumar Mitra: ñ*Structure of the Precambrian in the Meghalaya Plateau, India."* (ii) Vikash Tripathy, Satyapal and S.K.Mitra: ñ*Extensional tectonics in the southern part of Palnad sub-basin: Implications for the evolution of Cuddapah basin."* (iii) Sankha Das, Devasheesh Shukla and Sumit Kr. Mitra: ñ*The Nature of the Contact between Vinjamuru Domain and Udaigiri Domain of Nellore Schist Belt (NSB), Pamuru and Udayagiri area, Prakasam district, Andhra Pradesh."*	Write up in portal sent through proper channel and reviewed by the Director, Publication Division, SR, GSI, Hyderabad.
4	**Journal Gelogical Society of India, vol.82, pp.443,October,2013** Sumit Kumar Mitra, Sankha Das, Devasheesh Shuklaò*Multiple Deformation of the Nellore Schist Belt, Pamuru Area, Prakasam Dist, Andhra Pardesh".*	**Journal Geological Society of India, vol.82, pp.443,October,2013**
5	**International Conference on Future Challenges in Earth Science for Energy and Mineral Resources. (ESEMR2013) held at Indian School of Mines, Dhanbad**, Nov 23rd to 26th 2013. ñSumit Kumar Mitra: Key Note Address: *Archean Proterozoic rocks of Andhra Pradesh and its Mineralisation".*	Abstract peer reviewed by the Director, Publication Division, SR, GSI, Hyderabad
6	**Journal Geological Society of India,** Sankha Das, Devasheesh Shukla, Santanu Bhattacharjee and [1]Sumit Kumar Mitra: *"Age constraints of Udayagiri Domain of Nellore Schist belt by xenotime dating around Pamuru, Prakasam district, Andhra Pradesh".*	**Journal Geological Society of India, vol. 85, March 2015, pp 289-298**

7	**Indian Journal of Geosciences,** Sumit Kumar Mitra, Rajani Dharme, Tushar Meshram ñ *Canoe fold of the Kakulakonda Hill, Nellore Schist Belt, Andhra Pradesh"*	Under communication
8	**Journal Geological Society of India,** Tushar Meshram, Rajani Dharme and Sumit Kumar Mitra: ñ*A-type signature of mesoproterozoic biotite granite of Rapur area, southern part of Nellore schist belt, AP, India."*	Under communication to Journal Geological Society of India, to be send after reviewing by Director Publication, SR, GSI, Hyderabad.
9	**International seminar on Magmatism, Tectonism and Mineralization (MTM-2014) held at Kumaun Univesity, Nainital**, 27 ï 29 March 2014; <u>*Key note address*</u>; ñ*Signature of Archean Proterozoic rocks of Andhra Pradesh"*	Abstract peer reviewed by the Director, Publication Division, SR, GSI, Hyderabad (copy enclosed).
10	**Indian Journal of Geosciences,** Sankha Das, Devasheesh Shukla, and Sumit Kumar Mitra: ñ *Review of the stratigraphic position of the outliers of Quartzites of Cuddapah Supergroup within the centralwestren part of Nellore* Schist Belt around Udayagiri and Sitaramapuram, Prakasam and Nellore districts, Andhra Pradesh	**Vol. 68, No.1, Jan- March 2015, pp1-16**
11	**Indian Journal of Geosciences,** Sumit Kumar Mitra **"***Structure and Metamophism of the Precambrians in the Meghalaya Plateau,India"*	For GSI Special Publication, submitted .
12.	**In G.S.I, Portal** i) Sumit Kr. Mitra, Tushar Meshram, R.Dharme. **"First time report of Uraninite in the younger granites (Mesoproterozoic age) around Rapur, Nellore District, Andhra Pradesh"** ï Dated 26.02.2013. ii) Sankha Das, Devasheesh Shukla and Sumit Kr. Mitra. **"First time dating of Xenotime from the metapellites of Udaigiri Group, Nellore Schist Belt, West of Pamuru, Prakasam district, Andhra Pradesh"** ï Dated 17.04.2013	As GSI publication.

8. DETAILS OF PROFESSIONAL/RESEARCH EXPERIENCE

1977-1980 : Research experience for Ph.D. Thesis on Structural Geology of Delhi Group of rocks of Central Rajasthan. The important finding is that last deformation of the Delhi Group of rocks furnishing evidence of longitudinal shortening and occurs as conjugate folds and kink bands.

1980-1984 : Systematic Geological mapping in the Central & Southern Rajasthan. Both these areas show structural similarity with all the four-generation of structures.

1984-1995 : Seabed Geological & Geophysical Survey in the Bay of Bengal, Andaman Sea & Arabian Sea. Exploration for Evaluation of Placer Minerals in the Territorial water off the East Coast of India. Geotechnical investigation of the seabed sediments in the territorial waters of the East Coast of India. Geotechnical appraisal of the Durgaduani Creek, Sunderbans area, West Bengal – to study the feasibility of a Tidal Power Plant.

1995-1997: Engaged in Preliminary Investigation for Gold & Basemetal in the Tyrsad -Mawphlang Sector, E.K.Hills, Meghalaya.

1997- January, 1999: Engaged in Investigation in Lead-mineralisation around Mawmaram, E.K.Hills, Meghalaya.

Large scale mapping - delineating, for the first time**, four generation of structures of the Shillong Group of rocks.**

Systematic stream sediment sampling - showing concentration of gold around NE of Sohiong.

The discovery of argentiferous galena and auriferous arsenopyrite, loellingite occurring as bands within the Lower Quartzite of the Shillong Group of rocks (away from the postulated Tyrsad - Barapani shear zone). Test drilling have intersected 1.6 m thickness of quartzite with 15% lead occurring as the first level within 20 m of depth; 0.3 m thickness with 12% lead occurring as a second level around 35 m of depth and 1.5 m with 1-2% lead as third level around 65 m of depth. Association of Au & As and Pb & Ag has been established through geochemical prospecting, EPMA studies together with the lighological stratigraphical and structural control of mineralisation, has been established. *The Pb – Pb age of mineralisation, determined between* ***1530-1550*** *Ma.* The 'probable reserve' have been estimated based on the positive mineral intersection. This Mawmaram block representing ideal co-incidence of Lead-Silver mineralisation, supported by strong geochemical & geophysical anomalies advocates a sizeable deposit of Quartzite Hosted Lead-Silver mineralisation

for the first time in India (specially Northeastern Proterozoics). This discovery opens a new avenue for further search of polymetallic deposit and throws light into the basic geoscientific aspects of metallogenesis.
The Au - anomaly-showing concentrations, around Sohiong, in the finer fractions, making the area a prospective area for gold mineralisation, *first time report*.
The deciphering of the complex structural history with four generations of structures in the Shillong Group of rocks - *for the first time*. The significant finding is that slip planes development during the F_2 folding trending NNE - SSW. Also the last generation of structures, occurring as conjugate folds & kink bands, providing evidence of longitudinal shortening of the Shillong Group of rocks.
February, 1999 – March 2009: Engaged in seabed survey (Geological & Geophysical) and Placer Mineral Investigation in the Bay Bengal & Andaman Sea as Chief Scientist in many cruises undertaken by Marine Wing, GSI.
Undertaken expeditions as party leader in the Barren Island to study the recent Volcanism, from Marine Geology, Geological Survey Of India.

Carried out seabed survey for ONGC Projects in the Bombay offshore basin, and in the Krishna –Godavari Basin.
April 2009-January 2010 : Posted as Director at Bhubaneswar
February 2009-Dec. 2011: Posted at Regional Training Institute, Eastern Region, Kolkata with additional charge of FTC Ranchi and FTC Boula
Imparting Training to the newly recruits of GSI, and carried out many refresher courses(**See Annex.)**
Jan. 2012 to April 2014: Posted as Director, STM Projects , State Unit , Andhra Pradesh, GSI, Hyderabad

Conducted a Science Camp for Students of class X-XII on Marine Geology organized by National Science Camp, Digha Centre.
Imparted training in Advanced Structural Geology (5thand 7th) in the Training Institutes of Geological Survey of India, as visiting lecturer.
WORK CARRIED OUT IN MARINE GEOLOGY, Geological Survey of India(See Annexure)

Present other occupation:

1. **Board member, school of Earth Sciences, Central University of Karnataka, Gulbarga.**
2. **Visiting Professor in Structural Geology, Central University of Karnataka, Gulbarga.**
3. **Visiting Professor in Structural Geology, M.S. University, Vadodara**.
4. **Adjunct Professor, Mangalore University.**
5. **Visiting Professor in Structural Geology, Kumaun University, Nainital.**
6. **Guest Scientist , Dept of Geology, University of Calcutta**.

(SUMIT KR. MITRA)

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3. Prof. Dr T.K. Biswal,
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4. Dr. N.C.Pant,
Associate Professor,
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