CURRICULUM VITAE

1. Name & Date of Birth : SHUSHANTA SARANGI, June2- 1971

2. Sex, Category, Marital status: Male, General, Married

3.General specialization : (i) Geochronology (ii) Stable Isotope Geology

(iii) Carbonate (sedimentary) Geochemistry

4. Specialization in particular (Ph.D. and P.D.F.)

(i) Stable isotope and geochemical study of sedimentary carbonates for study of palaeoclimate and ocean chemistry.
(ii) Pb-Pb dating of carbonates (sedimentary and metamorphic)

5. Research activity at present:

(i) Rb-Sr, Sm-Nd, Re-Os isotope studies of auriferous quartz carbonate veins and suphide minerals plus U-Pb (of apatite) and Ar-Ar (of white micas) geochronology for Neoarchaean orogenic gold deposits, Ajjanahalli, Gadag, Jonnagiri and Chigargunta, Dharwar craton, southern India: (**Project submitted to CSIR, dated 27.7.21).**

(ii) Isotope (C,O, Sr, Nd), major and trace element studies of carbonatite bodies, Kollegal Schist belt, Chamrajnagar District, Karnataka, southern India Implication to REE mineralization/Exploration. (**Project under formulation after preliminary work)**.

(iii) Isotope and geochemical studies of lamprophyres, Lower Gondwana Coal Fields, Jharkhanad and West Bengal, implication to REE mineralization/Exploration: (**sample analysis over**)

(iv) Isotope and geochemical studies of carbonate rocks exposed in Dudhinal Section, Lower Gondwana, Jharkhanad. **Project under formulation after preliminary work**

(v) Stable isotopic (O, C, and S) studies of orogenic (Archean) gold deposits, Chitradurga Schist Belt, South India: **(Two DST projects completed on this topic, two Phds awarded and one more PhD thesis submitted)**

(vi) Stable isotope, geochemical and geochronological studies of Palaeoproterozoic carbonates Sausar Group, Central India and Aravalli Supergroup, Rajasthan (one Ph D awarded and one mote Ph D work under progress).

6. Educational Qualification, since graduation*

Year	Examination	Institute	Class/ Percentage of marks
1985	HSCE	BSCE-Cuttack, Odisha	1st Class, 67%
1987	AISSCE	CBSE, New Delhi	1st Class, 72.2% (in Science)
1991	+3,Science (B.Sc.,Degree)	Utkal University, Odisha	1st Class (HONS), Distinction, 73.2% in hons: Geology honors, Physics and maths as accessory subjects.
1994	M.Sc.Tech., Applied Geology	Indian School of Mines, Dhanbad	1st Class, Distinction, OGPA: 8.32 (86.4%)
2001	Ph.D. (Applied Geology)	Indian School of Mines, Dhanbad	Thesis submitted- April 2000, Awarded 2001.

Present status: Working as Associate Professor, Dept of Applied Geology,IIT(ISM) since 12 June 2012. Joined this institute one 12 June 2009.

8. Work Experience: (See annexure-I)

(i) Mass Spectrometric (VG Micromass, Dual Inlet for O, and C isotope) analysis of sedimentary carbonates for my Ph..D. work and presently also engaged in analysis for O, C and S Isotopes in carbonate rocks and sulfide mineral phases in SerCon Geo 20 20 Dual Inlet and Continuous Flow mass spectrometer and its maintenance from October 2006 to June 5, 2009.

(ii) Three years experience in clean chemical works necessary for Pb-isotopic analysis of carbonate rocks and their analysis in TIMS during my post doctoral research at NGRI.

(iii) Specialised Thematic Mapping of granitods which have intruded and associated with late Archaean granite greenstone terrains of the Eastern Dharwar Craton.

9. Specialised courses attended:

(i) Attended 5th Proficiency course on "Modern Practices in Petroleum Exploration conducted by the Petrotech Society at KDMIPE, ONGC-Dehradun from 14-19 September, 2009.

(ii) Specialised training on petrographic techniques organized by GSITI in September 2005.

(iii) 26th Orientation Courses for Geologists organized Geological Survey of India from Nov 2003 to August 2004.

(iv) Attended contact course on Isotope Geochemistry: Organised by Physical Research Laboratory, Ahmedabad; Sponsored by Department of Science and Technology, from 14th to 22nd July, 1997.

(V) Geological mapping in the sedimentary terrain of Lower Gondwana coal field around West Bokaro coal field at Kuju, Hazaribagh, organized by-Geological Survey of India Training Institute of Kuju; Sponsored by – Department of Science and Technology, from 29.10.95 to 25.11.95.

10. Address:

Office	Residence (present)	Permanent
Prof. S. Sarangi,	H.No.33, UGC-48 Apartment	Plot No : N-4/99
Associate Professor,	IIT-ISM Campus, Dhanbad	P.O.: IRC Village
Dept of Applied Geology IIT(ISM)-Dhanbad (826004)	Dhanbad-826004	Bhubaneswar-751015, Odisha
Phone: 9471173190 shushanta@iitism.ac.in		Phone: 0674/2551701

11. Reference:

Prof K. Gopalan	**Prof Anindya Sarkar**	**Prof R Srinivasan**
Emeritus Scientist (now left)	Associate Professor,	Visiting Professor
Geochronology Group	Dept of Geology and Geophysics	Divecha Centre for Climate Change
National Geophysical Research Institute, Hyderabad-500007	IIT- Kharagpur, Kharagpur(WB)	Indian Institute of Science, Bangalore- 560 012
gopalank1@Rediffmail.com	anindya@gg.iitkgp.ernet.in	srinimalu@gmail.com

Encl: Annex-I (**Brief details of research experience)**

Annex-II (**list of publications)**

Annex-III (**Experiences as a faculty at IIT-ISM, Dhanbad simce 2009 to till date)**

ANNEXURE – I

Brief details of research experience

1. **Ph. D. work** (July 1994 to April 2000) was on detection of important Eocene-Oligocene Boundary using high resolution Oxygen Isotope stratigraphy and associated palaeoclimatic, palaeoproductivity and palaeoredox changes during the Eocene-Oligocene transition in the Palaeogene sequence in the Kutch region, Gujarat. The research work involved high resolution sampling (~ cm level) in three vertical river sections, followed by precise oxygen, carbon, Sr isotopic analysis (at Physical Research Laboratory, Ahmedabad and National Geophysical Research Institute, Hyderabad) of separated larger benthic foraminiferal tests (*Nummulites*) and bulk sedimentary rocks. Apart from that, detailed petrographic and geochemical work (Major elements, trace elements and REE) was also done to understand the ocean chemistry during Eocene-Oligocene transition. **The results have been published in leading international journals like Geophysical Research Letters, Terra Nova and Chemical Geology** (kindly see the list of publication).
2. **CSIR-RA ship** (i.e Post Doctoral Fellow from July 2000 to 15 April 2003): As a CSIR Research Associate in the Geochronology lab of National Geophysical Research Institute, Hydeabad, India my task was to establish the Pb-Pb dating technique of carbonate rocks. In the process initially my task was to date the Mesoproterozoic Vindhyan carbonates directly by the Pb-Pb method to resolve the conflicting views on its age, based on two separate reports of fossil evidence of multicellular life. This age has been interpreted in terms of its implications for Precambrian atmospheric oxygen evolution. The result have been published in **Precambrian Research**. After successful completion of this work I dated marbles from early Archaean Sargur Supracrustals of Western Dharwar Craton to find out its age of metamorphism, the result of which also have been published in **Precambrian Research.** Finally I dated a global positive $\delta^{13}C$ signature (Palaeoproterozoic) bearing carbonate rock of Jhamrakotra Formation, Aravalli Supergroup, Rajasthan. This result has been published in **Jl Geol Soc of India**.

3. **As a Geologist in Geological Survey of India (since 16 April 2003 to June 2009) :** The first one year, Nov 2003 to August 2004, was utilised in obtaining training and orientations from the organization. This was followed by two years Specialised Thematic Mapping (October 2004- September 2006) of granitoids intruding the late Arcahean greenstone belts in the eastern part of well known early to late Archaean Dharwar Craton. In this I mapped different types of granites which were earlier broadly grouped under Precambrian Gneissic Complex. The total mapping areas was 750 Sq Km, which revealed that only 5-Sq Km area is metamorphic and rest are all of granitoids of two ages. Mapping was followed by their petrographic analysis, modal analysis, geochemistry to identify the exact type of granite in accordance with IUGS classification. The results are under preparation for publication.

On completion of this task, seeing my past experience in Stable Isotopes, I was offered by the organization to take the charge of Stable Isotope lab of GSI at Bangalore. Here I have worked from October 2006 to June 5, 2009. Here as per rule of the office I have to provide service to the scientists seeking isotopic data for their research, maintenance of the laboratory and mass spectrometer, its peripheral units where I have started my own research project on Stable isotopic (O, C, and S) studies of Orogenic (Archaean) gold deposits, Chitradurga Schist Belt, South India.

ANNEXURE – II

List of Publications, abstracts, reports, specialized courses and invited talks:

Publications in SCI journals:

1. **Goswami, A., Mohanty, S. P., Sarangi, S., Das, S., Mohanty, D., Barik, A(2025)** Ocean paleo-redox condition during early Lomagundi-Jatuli event: records from major and trace element proxies in carbonate rocks of the Aravalli Supergroup, India. International Journal of Earth Sciences (under revision).
2. **Sarangi, S., Das, S., Debnath, R.,(2023) Study of REE potential in the lamprophyre dykes, Lower Gondwana Coal Fields, parts of eastern India. Goldschmidt 2023 Abstract https://doi.org/10.7185/gold2023.15482.**
3. Goswami , A., **Sarangi, S.,** Mohanty,S. P., Patil, D.J., Sarkar,A.,Ray, J.S.,Das,S., Mohanty, D., S. Ahmad, M., Pradhan, R.M., Barik,A.,**(2023)** Negative $\delta^{13}C_{carb}$ excursions within early part of the Lomagundi event recorded in the Paleoproterozoic sedimentary carbonates, Aravalli Supergroup, Rajasthan India: Chemostratigraphy and basin evolution. **Precambrian Research, V. 309, pp.107240.** https://doi.org/10.1016/j.precamres.2023.107240 Q-1
4. Maurya, Rai. S., Sharma,S.K., C.P., Rawat, S. , Chandana, K.R., Dhabi, A., Bhushan, R., **Sarangi, S., (2022)** Paleo-vegetation and climate variability during the last three millennia in the Ladakh, Himalaya. **CATENA**, **V.217, 106500. Q-1.**
5. Maurya, S, Ghosh, R., Sehgal, R.K., Srivastava, P., Shukla, U/K.., Singh, A.K., **Sarangi, S. (2022)** Stable Isotopic studies of the herbivorous mammals from the Marginal Ganga Plain, India: implication for the palaeo-environmental reconstruction. **Geological Journal**. 1–14**,** DOI: 10.1002/gj.4522 **Q-3.**
6. Das, S., Rai, S.K., Rahaman, W., Singhla, S, **Sarangi, S (2021)** Chemical weathering and Sr flux from the silicate lithology dominated fluvial system: Insights from major ions, dissolved Sr and $^{87}Sr/^{86}Sr$ of the Teesta headwaters, Sikkim Himalaya. **Applied Geochemistry, V. 137, pp. 105171** (**accepted**).**Q-3**
7. Monika S., **Sarangi, S**., Srinivasan, R, Balakrishnan, S, Hegde V. S., **(2021).** Zircon SHRIMP U–Pb geochronology, geochemical and Nd isotope systematics of Neoarchean granitoids, Gadag Greenstone Belt, Dharwar Craton, southern India: Petrogenesis and tectonic significance. **Journal of Earth System Science (In press)** DOI: https://doi.org/10.1007/s12040-021-01580-8. **Q-4.**
8. Das, S., Tripathy, G. R., Rai, S. K., Danish, Md., , Thakur, D.,Dutt, S., **Sarangi, S (2021).** The Role of Sulfuric Acid in Continental Weathering: Insights From Dissolved Major Ions and Inorganic Carbon Isotopes of the Teesta River, Lower Brahmaputra System. **Geochemistry, Geophysics, Geosystems**. **https://doi.org/10.1029/2020GC009324**. **Q-2.**
9. Arif, Md. Dey, S., Gond, A. K., Zong, K., Liu, Y.,, Mitra, A. , Mitra, A., **Sarangi, S (2021)** Mesoarchean continental intraplate volcanism and sedimentation: The case of the Simlipal basin, Singhbhum Craton, eastern India. **Precambrian Research**. https://doi.org/10.1016/j.precamres.2021.106245. **Q-1.**
10. R.S.Ahluwalia, S.P. Rai, P.N. Meetei, S. Kumar, **S. Sarangi (2021)** Spatial-diurnal variability of snow/glacier melt runoff in glacier regime river valley: Central Himalaya, India. **Quaternary International**, **V. 585, pp.183-194.** https://doi.org/10.1016/j.quaint.2021.01.003 **Q-3**
11. Meetei, P.N.,Ahluwalia, R. S., Rai, S.P., Khobragade, S., **Sarangi, S**., , Goel, M., Kumar, S **(2020).** Spatio-temporal analysis of snow cover and effect of terrain attributes in the Upper Ganga River Basin, central Himalaya. **Geocarto International**, DOI: 10.1080/10106049.2020.1762764. **Q-1**
12. Kesarwani,M., **Sarangi S.**, Srinivasan R., George BG, Singh SK, Bhattacharya S, Vasudev VN(**2019**). Origin of granodiorite hosted Neoarchaean orogenic gold ore deposits: Stable isotopic and geochemical constraints with example from the Dharwar craton, southern India. **Ore Geology Review V. 107, pp 754-779.** https://doi.org/10.1016/j.oregeorev.2019.03.001 **Q-1.**
13. Swain S.K., **Sarangi S.**, Srinivasan R., Sarkar A.,Kesarwani M, Mazumdar A., Satyanarayanan M. (**2018**) Stable isotope (C-O-S) and geochemical studies of auriferous quartz carbonate veins, Neoarchaean orogenic Ajjanahalli and Gadag Gold Field, Chitradurga schist belt, Dharwar Craton, southern India: Implication for the source of gold mineralizing fluids**. Ore Geology Review V.95, pp 456-479. Q-1.**
14. **Sarangi S.,** Mohanty S P., Barik A. (**2017**) Rare earth element characteristics of Paleoproterozoic cap carbonates pertaining to the Sausar Group, Central India: Implications for ocean paleoredox condition. **Journal of Asian Earth Sciences V. 148, pp. 31–50. Q-2.**

15. Sinha H.N., Preety Kumari, Rai Priti, Mohanty D., **Sarangi S. (2017)** The petroleum potential of the Arangi and Kajrahat Limestone formations from the Semri Group, Chopan, Uttar Pradesh, India **Geo Res J V.13 pp.59-65.**
16. Swain SK, **Sarangi S**, Srinivasan R, Sarkar A, Bhattacharya S, Patel SC, Pasayat RM, Sawkar RH **(2015)**, Isotope (C and O) composition of auriferous quartz carbonate veins, Central Lode System, Gadag Gold Field, Dharwar Craton, India: Implications to source of ore fluids. **Ore Geology Review, V 70, 305-320. Q-1.**
17. Mohanty SP, Barik A, **Sarangi S,** Sarkar A (**2015**) Carbon and oxygen isotope systematics of a Paleoproterozoic cap-carbonate sequence from the Sausar Group, Central India. **Palaeogeography, Palaeoclimatology, Palaeoecology** (Reply to comments, in press), V.438, pp 425-427 **Q-2.**
18. Mohanty SP, Barik A, **Sarangi S,** Sarkar A (**2015**) Carbon and oxygen isotope systematics of a Paleoproterozoic cap-carbonate sequence from the Sausar Group, Central India. **Palaeogeography, Palaeoclimatology, Palaeoecology 417 (2015) 195–209. Q-2.**
19. **Sarangi S**, Srinivasan R, Balaram V**(2013)** REE characteristics of Auriferous Quartz Veins of Archaean Orogenic gold deposits, Chitradurga Schist Belt, Dharwar Craton. **Geoscience Frontiers V.4, pp 231-239. Q-1.**
20. **Sarangi, S,** Sarkar, **A**, Srinivasan, R. and Patel, S.C. **(2012)** Carbon Isotope studies of auriferous Quartz Carbonate Veins from two Orogenic gold deposits from the Neoarchean Chitradurga Schist Belt, Dharwar Craton, India: evidence for mantle /magmatic source of auriferous fluid. **Journal of Asian Earth Sciences V. 52 pp. 1–11. Q-2.**
21. **Sarangi S**, Gopalan K and Srinivasan R **(2007)** Pb-Pb isochron from single small samples of marble from the Sargur Supracrustal rocks, Dharwar craton, Southern India. **Precambrian Research, V.152, No 1-2,pp.83-91. Q-1.**
22. **Sarangi S,** Srinivas B, Das Sharma S, Gopalan K and Roy AB **(2006)**. Pb-Pb age of Jhamarakotra Formation: constraints on the Age of Aravalli Supergroup, Rajasthan. **Journal of the Geological Society of India, V.67, pp.442-446. Q-4**
23. **Sarangi S**, Gopalan K and Kumar S **(2004)** Pb-Pb age of earliest megascopic alga bearing Rohtas Formation, Vindhyana Supergroup, India: Implications for Precambrian oxygen evolution. **Precambrian Research, V. 132, pp.107-121. Q-1**
24. Sarkar A, **Sarangi S**, Ray AK and Bhattacharya SK **(2004)** Carbon isotopes studies across the Eocene-Oligocene boundary sequence of Kutch, Western India: Implications to ocean productivity and pCO_2 change **Geophysical Research Letters. V.30, No11, pp.42.1-42.4. Q-1**
25. Sarkar A, **Sarangi S**, Sarin MM, Ebihara M, Bhattacharya SK and Ray AK **(2004)**. Carbonate geochemistry across the Eocene-Oligocene boundary of Kutch, Western India: Implications to oceanic anoxia and foraminiferal extinction. **Chemical Geology, V.201, pp.281-293. Q-1.**
26. **Sarangi S,** Sarkar A**,** Sarin MM, Bhattacharya SK, Ebihara M and Ray AK **(2001)** Growth rate and life span of Eocene-Oligocene *Nummulites* tests: inferences from Sr/Ca ratio. **Terra Nova.,V.13, No.4, pp.264-269**. **Q-1.**
27. **Sarangi S**, Sarkar A, Bhattacharya SK and Ray AK **(1998)** Isotopic evidence of a rapid cooling and continuous sedimentation across the Eocene-Oligocene Boundary of Wagapadhar and Waior , Kutch. **Journal of the Geological Society of India., V. 59,pp.245-248. Q-4**
28. **Sarangi S** and Mohanty S **(1998)** Structural patterns around the Chhotanagpur Gneissic Complex near Gomoh, Dhanbad District, Bihar. **Indian Journal of Geology, V.70, pp.73-80.**

Abstracts in International SCI journals

1. **Sarangi, S**, Sarkar, A, Balaram, V and **Srinivasan, R**. (2011) Low oxygen fugacity mantle derived auriferous fluids for Archaean Orogenic gold deposit of Ajjanahalli, Chitradurga Schist belt, Dharwar Craton, India. **Mineralogical Magazine**, **V. 75(3), p. 1798. Q-2**

2. **S Sarangi, S,** Sarkar, **A**, Srinivasan, R. and Patel, S.C. **(2010)** Magma/Mantle origin for auriferous CO_2 rich fluids at the Archaean lode gold deposit of G.R.Halli, Chitradurga greenstone belt, southern India. **Geochimica et Cosmochimica Acta, V.74, A910. Q-1**
3. **S Sarangi, S,** Sarkar, **A**, Srinivasan, R. and Patel, S.C. **(2009)** Mantle origin for auriferous CO_2 rich fluids at the Archaean lode gold deposit of Ajjenahalli, Chitradurga greenstone belt, southern India **Geochimica et Cosmochimica Acta, V, 73, A1158. Q-1**
4. Goplalan K, **Sarangi S**, and Kumar S **(2002)** Pb-Pb age of earliest megascopic, eukaryotic algae bearing Vindhyan sediments, India. **Geochimica et Cosmochimica Acta, V, 66, Issue 15A, pp. A168. Q-1**

Abstracts and presentations in International Seminars/Conferences:

1. Manisha Kesarwani, **S.Sarangi**, B.G.George, J.S.Ray, R.Srinivasan, V.N.Vasudev **(2017)** C and O isotope geochemistry of auriferous Quartz Carbonate Veins of Jonnagiri Gold Deposit, Eastern Dharwar Craton, southern India: Implication for source of mineralizing fluids in granodiorite hosted gold deposits. ***Goldschmidt Abstracts*, 1920**.
2. Singh M, **Sarangi S**, George BG, Ray JS, Sawkar RH **(2017)** C and O Isotope Systematics of Auriferous Quartz Carbonate Veins, Western Lode Systems, Archaean Gadag Gold Field, Dharwar Craton, India: Implication to the Source of Mineralizing Fluids for Orogenic Gold Deposits ***Goldschmidt Abstracts*, 3663.**
3. **Sarangi S**, Swain SK, Srinivasan R, Sarkar A, Majumadr A and Satyanarayanan M **(2017)** Isotope (C-O-S) and Geochemical Evidence of Juvenile Origin for the Neoarchaean Orogenic Gold Deposits at Ajjanahalli and Gadag Gold Field, Chitradurga Schist Belt, Dharwar Craton, India. ***Goldschmidt Abstracts*, 3509.**
4. Sagar SKS, **Sarangi S**, Srinivassan RS, Anindya AS, Aninda AM Mantle/Juvenile Magmatic Source for Auriferous Ore Fluids of Hutti Gold Deposit, Hutti-Maski Greenstone Belt, Southern India: Evidence from C, O, S Isotopic Systematics ***Goldschmidt Abstracts*, 3458**
5. **S. Sarangi,** R. Srinivasan, D. Behera, S.K.Swain, V.S. Hegde , Allen Nutman A (**2016**) critique of sutured cratonic blocks in the Archean Dharwar craton of southern India Goldschmidt Conference Abstracts pp.2998.
6. S.K.Swain, **S.Sarangi,** R.Srinivasan, A.Sarkar, A.Mazumdar, M.Satyanarayanan (**2016**) Stable isotope (C-O-S) and REE study of BIF hosted Ganajur gold deposit, Neoarchean Dharwar craton, India: Evidence for Mantle/Magmatic source of mineralizing fluid Goldschmidt Conference Abstracts pp.2683
7. Swain SK, **Sarangi S**, Sarkar A, Patel SC, **Srinivasan R**, Sawkar RH **(2013)** $\delta^{13}C_{CO2}$ and $\delta^{18}O_{H2O}$ composition of fluids calculated from carbonate $\delta^{13}C_{pdb}$ and $\delta^{18}O_{smow}$ data of quartz carbonate veins of Gadag gold deposits, Chitradurga Schist Belts: Implication to the source of auriferous fluids. In Abstract volume "Annual General Meeting of the Geological Society of India and International Conference on "Future challenges in Earth Sciences for Energy and Mineral Resources (ES*E*MR 2013).
8. Kesrwani Manisha, Singh Monica, **Sarangi S. (2013)** REE geochemistry of auriferous Quartz Carbonate Veins, from Neoarchean orogenic deposits, G.R.Halli, Chitradurga Schist Belt: Implication to source of ore fluids. In Abstract volume "Annual General

Meeting of the Geological Society of India and International Conference on "Future challenges in Earth Sciences for Energy and Mineral Resources (ES*E*MR 2013).

9. Singh Monica, Kesrwani Manisha, **Sarangi S. (2013)** REE geochemistry of Chalybite dyke and Carbonate Alteration area, G.R.Gold Deposits, Chitradurga Schist Belt: Implication to source of ore fluids. In Abstract volume "Annual General Meeting of the Geological Society of India and International Conference on "Future challenges in Earth Sciences for Energy and Mineral Resources (ES*E*MR 2013).
10. **Sarangi, S**, Sarkar A, Balaram, V and **Srinivasan, R** (**2011)** Low oxygen fugacity mantle derived auriferous fluids for Archaean Orogenic gold deposit of Ajjanahalli, Chitradurga Schist belt, Dharwar Craton, India. Presented orally at Gioldschmidt International Conference held at Prague, Czech Republic on 18 Aug-2011.
11. **Sarangi, S,** Sarkar, A, **Srinivasan, R** and Patel, SC **(2011**) Mantle/Magmatic source of auriferous fluids for Orogenic gold deposits at Ajjanahalli And Guddadarangavvanahalli, Dharwar Craton, India: based on Carbon And Oxygen Isotope Studies Of Carbonates. Presented at Indian Geological Congress meeting, Indian School of Mines, Dhanbad.
12. **Sarangi, S,** Sarkar, A, **Srinivasan, R** and Patel, SC **(2010**) Stable isotope data evidence for a mantle/magma origin of chalybite dyke and auriferous fluids, Archaean Orogenic gold deposit of G.R..Halli, Dharwar craton, southern India. In abstract volume of 7th Annual meeting of Asia Oceania Geosience Society, held at Hyderabad. International convention centre, 5-9July 2010 (Presented orally).
14. **Sarangi, S**, Sarkar, A, **Srinivasan. R,** Balaram, V. (2011). REE patterns of carbonate facies BIF, Ajjanahalli gold deposit, Chitradurga Schist Belt, Dharwar Craton: Implication to environment of deposition of Archaean BIFS. Presented at Annual General Meeting of **JGSI.**
15. **Sarangi S and Sarkar A (2010)** Geochemical and stable isotope evidence of an anoxic marine depositional condition during late eocene-early oligocene transition period in kutch, western india: implications to hydrocarbon exploration. Abstract presented in Geological and Technological Facets of CBM, Shale Gas, Energy Resources and CO_2 Sequestration (CSESC) conference organized by Dept of Applied Geology held at Indian School of Mines, Dhanbad.
16. **Sarangi S,** Sarkar A, Srinivasan R, Patel SC **(2010**) Stable isotope data evidence for a mantle/magma origin of chalybite dyke and auriferous fluids, Archaean Orogenic gold deposit of G.R..Halli, Dharwar craton, southern India. In abstract volume of 7th Annual meeting of Asia Oceania Geosience Society, held at Hyderabad. International convention centre, 5-9July 2010 (Presented orally).
17. **Sarangi S,** Tripathy AK, Kumar A, Samantray R, Reddy TG and Reddy KVS **(2008)** Peninsular Gneissic Complex Or Peninsular Granitoids? Results of mapping carried out around Madanapalle, South of Veligallu Schist Belt, Chittoor district, Andhra Pradesh. **National Seminar on Crustal Evolution and Associated Mineralisation, Bangalore University, Dec 3-5.**
18. **Sarangi S**, Tripathy AK.,Kumar A and Reddy GT **(2006)** Specialized Thematic Mapping of the Granite-Greenstone Terrain south of Veligallu Schist Belt, Andhra Pradesh. **Rec. Geol. Surv. Ind. Vol. 139, PT.-5, pp. 7-9.**

19. **Sarangi, S**., Goplalan K and Kumar S **(2003).** Pb-Pb dating of Marbles from Sargur Supergroup, implication for Archaean Metamorphism, ISMAS **Symposium,** held at National Institute of Oceanography, Goa. (Presented orally)**.**
20. **Sarangi S** and Gopalan K **(2001)**. Direct dating of Lower Vindhyan Carbonates by Lead –Lead method. Abstracts in the 38th Annual Convention and meeting on Natural Hazards and Management of Role of Earth System Scientists. IGU2001.
21. **Sarangi,S.**, Sarkar,A.,Ray A,K.,Bhattachary,S.K., and Hansen,H.J.,**1999**.'Rapid change in atmospheric pCO_2 across the Eocene-Oligocene boundary: organic carbon isotope evidence from Kutch Palaeogene sequence' **ISMAS Symposium,** held at Hyderabad (Presented as poster)**.**
22. Sarkar, A., Ray, A. K., and **Sarangi, S., 1999**. 'Warm early Paleogene tropical shoreline: stable isotope and faunal evidence from Kutch, Western India'. (Abstract in the **International Meeting on Early Paleogene Warm Climates and Biosphere Dynamics'** Gotenberg University, Sweden. (oral presentation by Dr.Sarkar)**.**
23. **Sarangi, S.,** Sarkar, A., Bhattacharya, S. K., and Ray, A.K., **1997**. 'Low latitude cooling across Eocene-Oligocene Boundary: Oxygen isotope evidence from Kutch Palaeogene in the sequence' **International Conference on Isotopes In The Solar System,** held at Physical Research Laboratory Ahmedabad. (Presented by poster at PRL and MS University, Vadodara).
24. Sarkar,A., **Sarangi. S.,** Bhattacharya, S.K., Ozaki, H., Ebihara,M., **1997.**'Eustatic change, annoxia and Foraminiferal extinction across the Eocene- Oligocene Boundary of Kutch, Gujrat: Evidences from REE Geochemistry and Carbon isotopes'. **International Conference on Isotopes in the Solar System**, held at Physical Research Laboratory, Ahmedabad. (Presented as poster)
25. **Sarangi. S.** And Sarkar, A., **1996**. 'Stable Isotope evidence of a catastrophic climatic change across the Eocene –Oligocene Boundary of Kutch, **Golden Jubilee Conference on Physical and. Biological Changes Across Major Geological Boundaries** held at Birbal Sahni Institute of Palaeobotany, Lucknow. (Presented as poster).

Reports (unpublished):

1. **S.Sarangi and R.Hanumantha (2009)** Report on Study of role and origin of CO_2 and SO_2 via C,O, and S-isotope studies in Archaean greenstone gold deposit of Ajjanahalli and Sangli mine of Chitradurga Schsit Belt, Karnataka. Draft progress report submitted to the Petrology, Petrochemistry, and Ore Dressing Laboratory, **Airborne Mineral survey and Exploration Wing, Geological Survey of India, Bangalore**.
2. **Sarangi S**, Samantharay, R and Reddy KVS **(2008)** Report on Specialized Tthematic Mapping of the Granite-Greenstone Terrain south of Veligallu Schist Belt, Chittoor Districts, Andhra Pradesh. **Progress report of the Geological Survey of India, for the FS 2005-2006.**
3. **Sarangi S**, Tripathy AK.,Kumar A and Reddy GT **(2006)** Report on Specialized Thematic Mapping of the Granite-Greenstone Terrain south of Veligallu Schist Belt, Chittoor Districts, Andhra Pradesh. **Progress report of Geological Survey of India, for the FS 2004-2005.**

IV. Specialized courses attended:

(i) **Specialised training on petrographic techniques** organized by GSITI in September 2005. **Geological mapping in the sedimentary terrain** of Lower Gondwana coal field around West Bokaro coal field at Kuju, Hazaribagh, organized by-Geological Survey of India Training Institute of Kuju; **Sponsored** by – Department of Science and Technology, from 29.10.95 to 25.11.95. .

(ii) **Contact course on Isotope Geochemistry**: Organised by Physical Research Laboratory, Ahmedabad; Sponsored by Department of Science and Technology, from 14th to 22nd July, 1997.

(iii) **26th Orientation Courses for Geologists organized by GSITI** of Geological Survey of India from Nov 2003 to August 2004.

V. Invited talks

(i) Stable Isotope evidence of a catastrophic climatic change across the Eocene –Oligocene Boundary of Kutch: At Dept of Applied Geology, ISM-Dhanbad (1995).

(ii) Isotopic and Geochemical studies across the Eocene-Oligocene Boundary of Kutch, western India.(Presented twice during Ph.D. pre-submission, 2000 and Ph.D. viva, 2001 respectivelya at Dept of Applied Geology, ISM-Dhanbad.

(iii) Stable isotope, geochemical and faunal studies across Eocene-Oliogocene Boundary at Kutch, Western India: At Physical Research Laboratory, Ahmedabad (1997)**.**

(i) Isotopic and Geochemical studies across the Eocene-Oligocene Boundary of Kutch, western India: At National Geophysical Research Institute (NGRI), Hydrabad (2000).

(ii) Pb-Pb dating of Vindhyan Carbonates at NGRI, Hyderabad (2001,02).

(iii) Pb-Pb dating of carbonate rocks: Indian Examples At NGRI, Hyderabad (2003).

(iv) Pb-Pb dating of carbonate rocks: Application in Meso-Neoproterozoic Vindhyan basin. At Geological Survey of India, Hyderabad (2003)

(v) Radioactive age determination of rocks: At national science college, Bangalore (2007)

(vi) Radioactive age determination of rocks: With special reference to Pb-Pb dating of carbonate rocks from India: At Bangalore University (2008).

(vii) Pb-Pb age of earliest megascopic alga bearing Rohtas Formation, Vindhyan Supergroup, India: Implications for Precambrian oxygen evolution: At office of the Jl. Geological Survey of India (2008).

……contd….

Annexure-III

Activities at present after joining as a faculty at Indian School of Mines, Dhanbad

1. Teaching from date of joining i.e. 12 June 2009 to till date

Sl. No.	Semester &Year	Course Name (PG/UG)	Name of the Course	L-T-P	Total L-T-P per semester
1	**Monsoon,2009-10**	VII Sem, Integrated (AGL)	Analytical instruments in geochemistry	2-1-3	2-1-3
2	-do-	I M.Tech, EGL	Structural geology for site engineers	3-0-3	3-0-3
3	-do-	V, B.Tech. PE	Sedimentary and Petroleum Geology	4-0-3	0-0-3
4	**Winter ,2009-10**	IV, M.Sc. Tech AGL	Petroleum Geology	3-0-3	3-0-3
5	-do-	III, B.Tech, ME	Economic Geology	3-0-3	3-0-3
6	-do-	II M.Sc.Tech. AGL + VI (Int) AGL	Geochemistry	3-0-3	1-0-3
7	**Monsoon, 2010-11**	I M.Sc.Tech AGL + V (Int) AGL	Stratigraphy	4-0-0	2-0-0
8	-do-	I M. Tech, MLE	Economic Geology	3-0-3	3-0-3
9	-do-	III B.Tech, PE	Geology for petroleum engineers	3-0-2	3-0-2
10	-do-	V B.Tech, PE	Sedimentary and Petroleum Geology	4-0-3	0-0-3
11	-do-	I B.Tech (Section D)	Earth System Science		0-0-1
12	**Winter, 2010-11**	II, M.Sc.Tech + VI Int M.Sc. Tech (AGL)	Geochemistry	3-0-3	3-0-3
13	-do-	IV, M.Sc.Tech + VIII Int. (AGL)	Petroleum Geology	3-0-3	3-0-3
14	-do-	II M.Tech, PEX	Sequence stratigraphy		1-0-0
15	**Monsoon, 2011-12**	I M.Sc.Tech AGL+V (Int) AGL	Stratigraphy	4-0-0	2-0-0
16	-do-	I M. Tech, MLE	Economic Geology	3-0-3	3-0-3
17	-do-	III B.Tech, PE	Geology for petroleum engineers	3-0-2	3-0-2
18	-do-	V B.Tech, PE	Sedimentary and Petroleum Geology	4-0-3	0-0-3
19	-do-	I B.Tech (Section D)	Earth System Science	1-0-0	1-0-0
20	-do-	I B.Tech (Section E)	Earth System Science	1-0-0	1-0-0
21	**Winter, 2011-12**	IV Int M.Sc.Tech (AGL) + VIIInt. M.Sc.Tech (AGP)+ II M.Sc.Tech (AGP)	Geomorphology and structural geology	3-0-3	3-0-0
22	-do-	IV M.Sc.Tech AGL+VIII Int Tech (AGL)	Petroleum Geology	3-0-3	3-0-3
23	-do-	II, M.Sc.Tech AGL+VI Int M. Tech (AGL)	Geochemistry	3-0-3	0-0-3
24	**Monsoon, 2012-13**	I M.Sc.Tech AGL+V (Int) AGL	Stratigraphy	3-0-0	3-0-0
25	-do-	I M.Sc.Tech AGL		3-0-3	3-0-3
26	-do-	I M.Sc.Tech AGP + V(Int) M.Sc.Tech AGP	Sedimentary and Petroleum Geology	4-0-0	4-0-0
27	-do-	V Sem, B.Tech. PE	Sedimentary and Petroleum Geology	4-0-3	2-0-0
28	-do-	I B.Tech (Section D)	Earth System Science	1-0-0	0-0-1
29	-do-	I B.Tech (Section E)	Earth System Science	1-0-0	0-0-1
30	**Winter, 2012-13**	VI Int.M,Sc.Tech AGL	Geochemistry	3-0-3	3-0-3
31	-do-	II M.Sc.Tech AGP+VI Int. M.Sc.Tech AGP	Geomorphology and structural geology	3-0-3	3-0-3

32	**Monsoon, 2013-14**	III Int. M.sc.Tech AGL	Principles of stratigraphy and economic geology	3-0-0	3-0-0
33	**-do-**	V Int M.Sc.Tech AGL	Geomorphology and structural geology	3-0-2	3-0-2
34	**-do-**	I M.Sc.Tech AGL	Stratigraphy	3-0-0	
35	**-do-**	I B.Tech Common (Sec C)	Earth System Science	1-0-0	1-0-0
36	**Winter, 2013-14**	VIII Int. M.Sc.Tech AGL	Geochemistry	3-0-0	3-0-0
37	**-do-**	II M.Sc.Tech AGP+VI Int. M.Sc.Tech AGP	Geomorphology and structural geology	3-0-3	3-0-3
38	**-do-**	II M.Tech PEX	Sequence stratigraphy	3-0-3	1-0-0
39	**Monsoon, 2014-15**	III Int M.Sc.Tech AGL	Principles of stratigraphy and economic geology	3-0-0	3-0-0
40	**-do-**	V Int M.Sc.Tech AGL	Geomorphology and structural geology	3-0-0	3-0-0
41	**-do-**	I M.Sc. Tech AGL	Sedimentology	3-0-3	3-0-3
42	**-do-**	I B.Tech Common (Sec C)	Earth System Science	1-0-0	1-0-0
43	**Winter, 2014-15**	VIII Int. M.Sc.Tech AGL	Geochemistry	3-0-0	3-0-0
44	**-do-**	IVInt M.Sc.Tech (AGL)+VI Int.M.Sc.Tech (AGP)+ II M.Sc.Tech (AGP)	Petroleum Geology	3-0-3	3-0-3
45	**-do-**	II M.Tech PEX	Sequence stratigraphy	3-0-3	1-0-0
46	**Monsoon, 2015-16**	Vth B.Tech PE+Dual Degree	Sedimentary and Petroleum Geology	3-0-2	3-0-2
47	**-do-**	III Int. M.Tech	Stratigraphy and economic geology	3-0-0	3-0-0
48	**-do-**	V Int.M.Sc.Tech+ I M.Sc.Tech AGL	Geomorphology and structural geology	0-0-3	0-0-3
49	**-do-**	I B.Tech Common (Sec C)	Earth System Science	1-0-0	1-0-0
50	**Winter, 2015-16**	VIII Int. AGL+IV M.Sc.Tech AGL	Petroleum Geology	3-0-0	3-0-0
51	**-do-**	VIII Int. AGL+IV M.Sc.Tech AGL	Petroleum Geology	0-0-3	(0-0-3)×2
52	**-do-**	II M.Tech PEX	Sequence stratigraphy	1-0-0	1-0-0
	Monsoon, 2016-17	Vth B.Tech PE+ Dual Degree	Sedimentary and Petroleum Geology	3-0-2	3-0-2
53	**-do-**	I M.Tech, PEX	Petroleum Geology	4-0-0	2-0-0
54	**-do-**	V Int. M.Sc.Tech AGL+ I M.Sc.Tech AGL	Sedimentology	0-0-3	(0-0-3)×2
55	**-do-**	III M.Sc.Tech AGL	Sedimentology	0-0-3	(0-0-3)×2
56	**Winter, 2016-17**	VIII Int. AGL + IV M.Sc.Tech AGL	Petroleum Geology	3-0-3	3-0-3
57	**-do-**	II M.Tech PEX	Sequence Stratigraphy	1-0-0	1-0-0
58	**Monsoon, 2017-18**	Vth B.Tech PE + Dual Degree	Sedimentary and Petroleum Geology	3-0-2	3-0-2
59	**-do-**	I M.Tech, PEX	Sedimentary and Petroleum Geology	4-0-0	2-0-0
60	**-do-**	V Int. M.Sc.Tech AGL + I M.Sc.Tech AGL	Petroleum Geology	0-0-3	(0-0-3)×2
61	**-do-**	III M.Sc.Tech AGL + I M.Tech(MEX)	Geochemistry practical	0-0-3	(0-0-3)×2
62	**-do-**	I B. Tech Common (Sec C)	Earth System Science	1-0-0	1-0-0
63	**Winter, 2017-18**	VIII Int. AGL +IV M.Sc. Tech AGL	Petroleum Geology	3-0-3	3-0-0
64	**-do-**	IV Int M. Tech AGL + II M. Sc.Tech AGL	Geochemistry practical	0-0-3	0-0-3
65	**-do-**	II M. Tech PEX	Sequence Stratigraphy	3-0-0	1-0-0
66	**-do-**	I B. Tech Common (Sec H)	Earth System Science		1-0-0
67	**Monsoon, 2018-19**	I M.Sc.Tech AGL+ V (Int) M.Tech	Sedimentology	3-0-0	1-0-0
68	**-do-**	I M.Tech, PEX	Petroleum Geology	4-0-3	2-0-3
69	**-do-**	Vth B.Tech PE	Sedimentary and	3-0-2	3-0-2

			Petroleum Geology		
70	**-do-**	V M.Sc.Tech AGL	Sequence Stratigraphy	3-0-0	1-0-0
71	**-do-**	I B.Tech Common (Sec C)	Earth System Science	1-0-0	1-0-0
72	**Winter, 2018-19**	IV Int M.Tech AGL + II M.Sc.Tech AGL	Sedimentology	3-0-0	3-0-0
73	**-do-**	IV Int M.Tech AGL + II M.Sc.Tech AGL	Sedimentology	0-0-3	(0-0-3)×2
74	**-do-**	VIII Int. AGL+IV M.Sc.Tech AGL	Petroleum Geology	3-0-3	3-0-0
75	**Monsoon, 2019-20**	V Int M.Tech AGL + I M.Sc.Tech AGL	Sedimentology	3-0-0	3-0-0
76		V Int M.Tech AGL + I M.Sc.Tech AGL	Sedimentology	0-0-3	(0-0-3)×2
		V Int M.Tech AGL	Sequence Stratigraphy	0-0-3	0-0-3
		I B.Tech Common (Sec C)	Earth System Science	1-0-0	1-0-0
77	**Winter, 2019-20**	II-AGL (PG) +IV-AGL (PG) + 8 Int(AGL)	Petroleum Geology	3-0-0	3-0-0
78		II-AGL (PG) +IV-AGL (PG) + 8 Int(AGL)	Petroleum Geology	0-0-3	0-0-3
		II-AGL (PG) + IV-Int AGL (UG)	Sedimentology	3-0-0	3-0-0
79	**Monsoon, 2020-21**	Vth B.Tech PE	Sedimentary and Petroleum Geology	3-0-0	3-0-0
80		Vth B.Tech PE	Sedimentary and Petroleum Geology	0-0-2	0-0-2
81	**Winter, 2020-21**	II-AGL (PG) +IV-AGL (PG) + 8 Int(AGL)	Petroleum Geology	3-0-0	3-0-0
82		II-AGL (PG) +IV-AGL (PG) + 8 Int(AGL)	Petroleum Geology	0-0-3	0-0-3
		II-AGL(PG) + VI-Int-AGL (UG)	Applied Sedimentology	3-0-0	3-0-0
		VIII-Int-AGL	Practical, sedimentology	0-0-3	0-0-3
83	**Monsoon, 2021-22**	I-AGL(PG)+V-Int-AGL(UG)+ JRF	Applied Geochemistry	3-0-0	3-0-0
84		I-AGL(PG)+V-Int-AGL(UG)	Applied Geochemistry	0-0-3	0-0-3
85	**Winter, 2021-22**	II-AGL(PG)+VI-Int-AGL(UG)+ JRF	Petroleum Geology	3-0-0	3-0-0
86		II-AGL(PG)+VI-Int-AGL(UG)	Petroleum Geology	0-0-3	0-0-3
87	**Monsoon, 2022-23**	I-AGL(PG)+V-Int-AGL(UG)+ JRF	Applied Geochemistry	3-0-0	3-0-0
88		I-AGL(PG)+V-Int-AGL(UG)	Applied Geochemistry	0-0-3	0-0-3
89	**Winter, 2022-23**	II-AGL(PG)+VI-Int-AGL(UG)+ JRF	Petroleum Geology	3-0-0	3-0-0
90		II-AGL(PG)+VI-Int-AGL(UG)	Petroleum Geology	0-0-3	0-0-3
91	**Monsoon, 2023-24**	I-AGL(PG)+V-Int-AGL(UG)+ JRF	Applied Geochemistry	3-0-0	3-0-0
92		I-AGL(PG)+V-Int-AGL(UG)	Applied Geochemistry	0-0-3	0-0-3
94	**Winter, 2023-24**	II-AGL (PG)+ IV-PE (UG)	Petroleum Geology	3-0-0	3-0-0
95		II-AGL (PG)+ VI int-AGL (UG)	Petroleum Geology	0-0-3	0-0-3
96	**Monsoon, 2023-24**	I-AGL(PG)+V-Int-AGL(UG)+ JRF	Applied Geochemistry	3-0-0	3-0-0
97		I-AGL(PG)+V-Int-AGL(UG)	Geochemistry Practical	0-0-2	0-0-2
98	**Winter, 2022-24**	II-AGL (PG)+ IV-PE (UG)	Petroleum Geology	3-0-0	3-0-0
99		II-AGL (PG)+ VI int-AGL (UG)	Petroleum Geology	0-0-3	0-0-3
100	**Monsoon, 2024-25**	I-AGL(PG)+V-Int-AGL(UG)+ JRF	Applied Geochemistry	3-0-0	3-0-0
101		I-AGL(PG)+V-Int-AGL(UG)	Geochemistry Practical	0-0-2	0-0-2
102	**Winter 2024-25**	II-AGL (PG)+ IV-PE (UG)	Petroleum Geology	3-0-0	3-0-0
103		II-AGL (PG)+ VI int-AGL (UG)	Petroleum Geology	0-0-3	0-0-3

Student's field work: In addition to the above class room teaching, I was also taught techniques of geological mapping in field to students every year for students. Those are listed below:

1. Session 2009-2010 (Winter Semester): Geological mapping in deformed metamorphic /igneous terrain (Subject code GLC 18930/ GLC 24930 with credit hour of 03). This was for IV M.Sc.Tech (AGL) and VIII Integrated M.Sc.Tech (AGL) students. I participated as an accompanying teacher with Prof S. Mohanty (In Charge) and Dr. M.K.Mukherjee. The field

work was organised for a period of two weeks to train 34 number of students at Ramtek area of Nagpur for mapping of Mn bearing Sausar Supergroup.

2. Session 2010-2011 (Winter Semester): Geological mapping in deformed metamorphic /igneous terrain (Subject code GLC 18930/ GLC 24930 with credit hour of 03). This was for IV M.Sc.Tech (AGL) and VIII Integrated M.Sc.Tech (AGL) students. I participated as an accompanying teacher with Prof S.Mohanty(In Charge) and Dr. M.K.Mukherjee. The field work was organised for a period of two weeks to train 59 number of students in the vicinity of Umra U-prosepect, Udaipur, Rajasthan, for mapping Carbonate-Phyllite sequence of Aravalli Supergroup.
3. **Session 2011-2012, 2012-13, 2013-14, 2015-16, 2016-17, 20170-18, 2018-19,2019-20 2022-23, 2023-24, 2024-25(Winter Semester):** Geological Sedimentary Terrain Mapping. This was for II M.Sc.Tech (AGL) and VI Integrated M.Sc.Tech (AGL) students. **I am the teacher in charge** and The field work was organised to map the Lower Gondwana coal bearing areas, in the vicinity of Ara-Dumarbera area of Western Bokaro Coal Field, Kuju, Hazaribagh. During 2019-20 we had taken the students for mapping trainng in similar terrain in Assanasol, West Bengal. **For 2020-21 and 2021-22 the field training programmes have been waved up due to pandemic.**
4. **Session 2010-11, 2011**-12, 2012-13, 2013-14, 2015-16: In charge of Students summer/ industrial training and summer internship.

5. Dissertation guidance of M.Sc. Tech, Integrated and M.Tech students:

Sl. No.	Student Name	Semester & Year	Dissertation Title	Co-supervisor (if any)	Any Outcome/ recognition of significance
1	Sagar Kumar Swain	M.Tech, 2011	Stable Isotope, geochemical and petrographic studies of orogenic gold deposits, Sangli Mine area, Gadag schist Belt, Karnataka"	None	Degree awarded in 2011
2	Prasant Kumar Baro	M.Sc.Tech (2012)	Uranium Mineralisation in the Umara area Rajasthan: Analysis based on Geochemical Studies	None	Degree awarded in 2012
3	Adity Ghosh	-do-	Geochemistry of carbonate rock around Bagdara, Umra Uranium Prospect, Rajasthan.	None	-do-
4	Sadeg,	-do-	Evaluation of Rapakivi like structures in metadolerites, Dhaya village, Dhanbad.	None	-do-
5	Ashmer Mohammad	-do-	Geochemistry of carbonate rock around Bagdara, Umra Uranium Prospect, Rajasthan.	None	-do-
6	Pranav Shankar Anu	M.Sc.Tech (Int), AGL, 2012	Geochemical Environment of Deposition of metasediments of Umra area, Rajasthan.	None	-do-

7	Sushma Gupta	III, M.Tech, MEX	Gas proneness of petroliferous basins of Cauvrey and Krishna-Godavri	Dr.D.Mohanty, Scientist, CIMFR	Degree awarded in 2013
8	Poonam Swain	V, M.Sc.Tech AGL	Petrography and Geochemistry and Mn ores and associated acid volcanic rocks of Kandri Mn Mine, Nagpur	None	-do-
9	Abhisekh Pankaj	-do-	Isotope and Geochemistry of Palaeoproterozoic Cap Carbonates, North Deolapar, Nagpur	None	-do-
10	Niharika Mahanta	-do-	Petrography and Geochemistry of Calc Silicates, Silari Formation, Sausar Supergrouo, Nagpur	None	-do-
11	Bharat Bonia	-do-	Isotope and Geochemistry of Palaeoproterozoic Cap-carbonates, South Deolapar,Nagpur	None	-do-
12	Pratik Dutta	-do-	CHIME Monazite dating and Geochemistry of Bukkapatna Granite, Ajjanahalli gold deposit, Karnataka	None	-do-
13	Nikhil M. Omprakash	XI Sem, (Int), AGL, 2012	Petrography and Geocehmistry of Lamprophyre dykes, Ara-Dumarbera Colliery, Hazaribagh	None	-do-
14	Rahul Deunath	III M.Sc.Tech, AGL	Isotope and geochemistry auriferous Quartz-Carbonate veins, Kabuliyatkatti block, Gadag Gold Deposit, Karnataka	None	Degree awarded in 2014
15	Mrityunjaya Kumar Jha	-do-	Isotope and geochemistry auriferous Quartz-Carbonate veins, Attikati block, Gadag Gold Deposit, Karnataka	None	-do-
16	Kushal Das	-do-	Isotope and geochemistry auriferous Quartz-Carbonate veins, Mysore Mine block, Gadag Gold Deposit, Karnataka	None	-do-
17	Abhiral Bhardwaj	VII Sem, (Int), AGL, 2012	Isotope and geochemistry auriferous Quartz-Carbonate veins, Nagavi block, Gadag Gold Deposit, Karnataka	None	-do-
18	Manas Ranjan Nayak	M.Sc.Tech, AGL	Application of mineral chemistry of quartz in gray granites of…. Gadag Gold Field	None	Degree awarded in May 2015
19	P. Lingaraju	M.Sc.Tech, AGL	Study of Hydrothermal…Gadag Gold Field, Karnataka	None	-do-
20	Kiranjit Singha	-do-	Study of alkali granite….GGF, Karnataka	None	-do-
21	Atul Dhwan	Int-AGL	Petrographic studies…GGF, Karnataka	None	Degree awarded in May 2015
22	Danish Mustaq	Int-AGL	Mineral Chemistry…GGF, Karnataka	None	-do-
23	Pratyush Pradhan	M.Sc.Tech AGL	Minera;logy and geochemical …..Vindhyan Supergroup	None	Degree awarded in 2016
24	Parmananda Swain	-do-	Study of geochemical variation…Vindhyan Supergroup	None	-do-
25	Snigdha Swain	-do-	Study of regional geochemical variation… UP	None	-do-
26	Jadhav Dileep Kumar	Int.AGL	Mineralogical studies…GGF, Karnataka	None	-do-
27	Milan Kumar Mahala	M.Sc.Tech AGL	Study of heavy minerals….	None	Degree awarded in 2017
28	Gargi	-do-	Geochemical…diamictites .Dudhinala sections	None	-do-

	Swarupa Sahu				
29	Sibshnkara Das	-do-	Study of ….Kuju sections	None	-do-
30	Mrinal Maniraj	-do-	X-ray mapping…GGF Karnataka	None	-do-
31	Rajesh Baitha	M.Tech MEX	Stable Isotope…Jonnagiri, AP	None	-do-
32	Manas Ranjan Mahanta	-do-	Fluid inclusion studies….KGF, AP	None	Degree awarded in 2018
33	Sidhanat Parida	M.Sc.Tech AGL	Stable isotope…KGF, Karnataka	None	-do-
34	Sonali Priyadarshini Mallik	-do-	Study of geochemical variation…Vindhyan Supergroup	None	-do-
35	Abhilash Sahu	-do-	Stable Isotope…Jonnagiri AP	None	-do-
36	Manish Patel	-do-	Evaluation of the Rapakivi…Baliapur, Jharkhand	None	-do-
37	Mr. Asanullah Ansari	-do-	Stable isotope studies of carbonate rocks associated with Talchir glaciogenic rocks, Dudhinala section, Jharkhand	None	-do-
38	Ms. Sudeshna Mishra	-do-	Stable isotope studies of carbonate rocks associated with Talchir glaciogenic rocks, Indira Village, Dudhinala section, Jharkhand	None	-do-
39	Ms. Laki Gogoi	-do-	Au- incidence investigation of pyrites in Coal deposits, Assam	None	-do-
40	Mr. Nihar Ranjan Mishra	-do-	Au- incidence investigation of pyrites in Nayvelli lignite deposits, Tamil Nadu	Nome	-do-
41	Ms. .Shreya Roy	-do-	Fluid inclusion studies of auriferous quartz veins….Singhbhum shear zone	None	Degree awarded in 2020
42	Md.Asir Khan	-do-	Stable isotope studies of Kollegal carbonatite, Karnataka	None	-do-
43	Md. Saif	-do-	Stable isotope studies of Ajipura carbonatite, Karnataka	None	-do-
44	Mr. Arindam Biswas	-do-	Fluid inclusion studies of aurifrrous quartz veins….Singhbhum shear zone	None	-do-
45	Mr. George Adam Mchiwa	-do-	Stable isotopes, geochemical and petrological studies of panda hill mbeya carbonatites, sw Tanzania.	None	-do-
46	Mr. Manish Kumar	Int AGL	Fluid inclusion studies of aurifrrous quartz veins….Singhbhum shear zone	None	Degree awarded in 2021
47	Ms. Keerti Soni	M.Sc.Tech AGL	Stable isotope and REE geochemistry of auriferous quartz carbonate veins of G.R. Halli gold deposit, Chitradurga schist belt, Dharwar craton, India	None	-do-
48	Mr. Rohit Gupta	-do-	REE and Stable isotope studies of chalybyte dyke around G.R. Halli gold mine area, Karanataka, southern India	None	-do-
49	Ms. Lilipta Nayak	-do	Silicate Oxygen isotope studies of of auriferous quartz	None	To be submitted in

			veins….Singhbhum shear zone		2022
50	Mr Gyana Ranjan Swain	-do-	Silicate Oxygen isotope studies of of auriferous quartz veins….Singhbhum shear zone	None	-do-
51	Mr. Soumya Ghosh	-do-	Silicate Oxygen isotope studies of of auriferous quartz veins….Singhbhum shear zone	None	-do-
52	Mr. Thangleman Haskip	-do-	Silicate Oxygen isotope studies of of auriferous quartz veins….Singhbhum shear zone	None	-do-

Research Contributions
Complete list of Sponsored Projects

Sl. No.	Title	(PI/Co-PI)	Sponsor	Amount (in Rs.)	Duration	Present status
1	Study of origin and source of CO_2 mineralizing fluids associated with gold deposits in parts of Chitradurga Schist Belt, Dharwar Supergroup, South India from stable isotope study of quartz-carbonate veins and sulfide minerals associated with gold mineralization	PI (No Co-PI)	ISM-MRP	1.00 Lac.	2 years (2009- 2011)	Completed
2	Stable isotope, geochemical and geochronological studies of Ajjanahalli and parts of Gadag gold prospects, Chitradurga Schist Belt, South India"	PI (No Co-PI)	DST	27.25 lac	3 Years 2011-2014	Completed
3	Stable and radiogenic Isotope geochemical, geochronological, and fluid Inclusion studies of granite-gneiss hosted gold deposits of the Eastern Dharwar Craton, at Chigarguntha (South KGF) And Jonnagiri, Andhra Pradesh. India	PI (No Co-PI)	DST	**50.82lac**	3 years 2015-16 to 2018-19	Completed since March 2020.
4	Augmentation of rock/ ore/ coal/ kerogen characterization and processing facility	Co-PI	DST-FIST Level II	238.00Lac	5-year duration 2012-13 onward	On-going
5	Development of DST-FIST Centre for Research in Earth Sciences [**CRES**])	PI	DST-FIST Level II	69Lac	5-year Sanctiond in March 2021	Ongoing
6	Rb, Sr, Sm, Nd, Re and Os isotope studies of some Neoarchean orogenic gold deposits, Dharwar Craton, southern India	PI	CSIR	36.9Lac		Project submitted to CSIR, July 2021

2. Ph.D. Thesis Supervision

3.

Sl.No.	Project Title	Place where research work being actually done	Role of Assesse (with name of other guides)	Date of Commencement	Percentage of progress
1.	Stable isotope….	Ajjanahlli and Gadag gold deposits, Karnataka	-Ph.D.Guide	Feb 2012	PhD awarded in 2017
2.	Stable isotope….	Sausar Group,	- Ph.D.Guide	Sept 2009	PhD awarded

		Ramtek,Nagpur			in 2017
3.	Isotope and Geochemical studies….	Jonnagiri and Chiggargunth a gold deposits, Andhra Pradesh	Ph.D. Guide	Feb 2013	PhD awarded
4.	Isotope and geochemical studies of palaeo-proterozoic carbonates…	Nagupur area	Co-guide	Joined in 2013	PhD awarded
5.	Isotope and Geochemical studies….	Gadag Gold Field, Karnataka	Ph.D. Guide	July 2013	PhD awarded
6.	Geochemical and Isotope Studies..	Himalayan Region	Ph.D. guidance jointly with Dr Santhosh Rai, WIHG, Dehradun	September 2016	PhD awarded
7.	Stable isotope….	Jonnagiri and Chiggargunta gold deposits, Andhra Pradesh	RA-Guide	May 2016	Work completed
8.	Sequence stratigraphy and basin evolution, Tertiary Himalaya	Himalaya	Co-guide	Joined in 2016	PhD awarded.
9.	Geochemical and Isotope Studies of Himalayan Glaciers	Himalayan Region	Ph.D. guidance jointly with Dr Aluwalia, WIHG, Dehradun	Joined in 2017	PhD awarded
10.	Geochemistry of mafic igneous rocks, Singhbhum Craton	Singhbhum region, Jharkhand	Ph.D. guidance jointly with Dr S.Dey, IISER Kolkata	Joined in 2018	PhD awarded
11.	Isotope studies of Himalayan rivers	Himalayan Region	Ph.D. guidance jointly with Dr Santhosh Rai, WIHG,Dehradun	Joined in 2018	PhD awarded
12.	Isotope and geochemical studies of palaeo-proterozoic carbonates…	Rajsthan	Co-guide	Joined in 2016	PhD awarded
13	Isotopic and geochemical studies, Lamprophyre intrusives, Jharia and Bokaro coal field, Jharkhand	Jharia and Bokaro coal field, Jharkhand	Sole guide (full time)	Joined in 2022	Work in progress
14	Isotopic and geochemical studies, Lamprophyre intrusives, Raniganj coal field, West Bengal	Raniganj coal field, West Bengal	Sole guide (full time)	Joined in 2022	Work in progress

4. Research:

My present research interests are the following:

Isotope and geochemical studies of quartz carbonate veins and gold bearing sulphides of Archaean orogenic gold deposits, Chitradurga Schist Belt, South India. I have been awarded with one ISM-MRP project (2009-2011) and one ongoing DST project. Details are mentioned below.

(i) ISM-MRP Project: In connection to the above research interest, I had submitted a Minor Research Project with an outlay of Rs 1,00,000 and entitled "**Study of origin and source of CO_2 mineralizing fluids associated with gold deposits in parts of Chitradurga Schist Belt, Dharwar Supergroup, South India from stable isotope study of quartz-carbonate veins and sulfide minerals associated with gold mineralisation**" to ISM immediately after I joined. This Minor Research Project has been completed. This work has lead to successful completion and submission of a M.Tech dissertation thesis and with some publication both the International journals and paper presentation in International and national conferences". The list of publications are shown below.

(ii) **Project by Department of Science and Technology:** A project entitled "**Stable Isotope, Geochemical And Geochronological Studies Of Ajjanahalli and Parts of Gadag Gold Prospects, Chitradurga Schist Belt, South India**" was submitted in July 2010 and was awarded in Sept 2011 by DST. **The total outlay or Rs 18.25Lacs**. JRF has been recruited and preliminary field work has been done. The work is under progress.

(B):I also work on the "**Isotope and Geochemical studies of cap carbonates of Palaeproterozoic age from Sausar Supergroup, Central India and Aravalli Supergroup, Rajasthan**". On this topic I have taken a JRF who has already completed ~ 3 years of his research and is likely to submit his thesis by end of this year. Already four M.Sc. Tech dissertation thesis on work done at Rajasthan area have been submitted.

At present I am extensively involved in REE exploration in lamprophyre dykes and sills of Jharia, Bokaro and Raniganj coal field. Guiding two Ph D stidents for this work.

3. **<u>Consultancy:</u>**

I am one of the member of a consultancy entitled " **Artificial Recharge and rainwater harvesting structure within the compounds of ISM, Dhanbad**" funded by Ministry of Water Resources, Govt of India, through Central Ground Water Board, Patna. The total outlay of the project is **Rs 1,74,85,645/-.** The total number of members in the team are 13, chaired by Prof.B.C.Sarkar. The main objective of the work to increase the storage capacity of aquifers below ISM campus to meet out future requirement of water due to rapid growth of population inside the campus as a result of increasing number of students and faculties. a number of wells have so far been drilled in different hostels.

6. Participation in administrative/Extracurricular activities:

Since the date of joining I have participated in these following activities

(A)

S. No.	Position / Role	Duration	Major Initiatives/Impact
1	**Academic:** (i)Faculty In Charge, Training (ii) Faculty In Charge, Research Scholars (iii) Member of Central Research Facility at ISM and at present Faculty Incharge, EPMA Lab, CRF, IIT(ISM) (iv) In charge Geochemistry Lab, AGL v) FIC, Integrated Courses, AGL vi) PIC, NFR vii) HOD-AGL	2011 to 2015 2011-15 2011-2021 Since 2015 2016-2024 Since Aug 2023 Since June 2024	Every year over 120 students have obtained training/internship in different organisations within India such as ONGC, GSI, CIL, DGH, Nayvelli Lignite, Rungta Mines etc. Established Electron Probe Micro Analyser (EPMA) lab since 2014**.**
2	**Organisation of Seminars:** (ii) Member of the organising committee. (iii) Member of the organising committee (iv)Member of the organising committee (v) Co-convener, 4th. N. K. Memorial Lecture, Dept of AGL, 9.11.2102 (vi) Organising Secretary, ESEMR 2014 (vii) Convener, Basant 2024		In the National Conference cum Workshop on Geological and Technological Facets of CBM, Shale Gas, Energy Resources and Carbon Dioxide Sequestration, CSECS 2010, November 19-20, 2010 organised of the Dept of Applied Geology. **I**nternational **Seminar** on Recent Advances in Geosciences, January 11-13, 2011 Organised By: Department of Applied Geophysics, Indian School of Mines 17th Convention of the Indian Geological Congress and International Conference on New Paradigms of Exploration and Sustainable Mineral Development: Vision 2050 (NPESMD - Geology. Organised By: Department of Applied during November10-12,2011. Successfully organized Successfully organized Internatioinal Confenrece and AGM Geological Society of India, ESEMR in 2013. Successfully organized

3	**Administrative works in the department** (i) Chairman, Stock Verification Committe (ii) Chairman, preparation of Renovation plans of AGL-I, II and Conference room along. (iii) Chairman, preparation of list of unserviceable items of the department. (iv)As a Co- Chairman for preparation of lists of tests/experiments and corresponding charges in various laboratories of AGL along.	 2010-2012 January 2010 2011	 Report for 2010-11 and 2011-12 have been submitted. Work has been completed Report was submitted in time.
4	**Extracurricular activities** (i) Faculty In Charge and Treasurer" of ISM-Geological Society (ii) Treasurer" in Student's Tech fest Concetto. **(ii)** I was judge in High Jump Events during Annual Sports Events, ISM **(iii)** President, Scolomin Club	 2009-2014 Both 2011 and 2012 Both 2010 and 2011 Assumed charge very recently in 2024.	 I have been associated with students for organising various activities such as welcome, farewell, Geological quiz, Cricket matches, cultural functions etc. The programme of both the years was very successfully conducted and accounts of 2011 have been audited. The events were successfully conducted. Organizing various types of functions and gathering for faculties, officers and their families of the institute

Declaration:

I Dr. Shushanta Sarangi, Professor, Department of Applied Geology declare that the information provided in this CV are correct to the best of my knowledge and belief.

(Shushanta Sarangi)
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