Curriculum Vitae *Sudha Agrahari*

Educational Qualifications

Degree/Examination	Year	University/Institution	Percentage/CGPA
Ph.D.	2010	Indian Institute of Technology (IIT) Roorkee, India	--
M.Sc. (Physics)	2004	Indian Institute of Technology (IIT) Roorkee, India	8.17
B.Sc.	2002	D. D. U. Gorakhpur University	77.28
Intermediate	1998	U. P. Board Allahabad	76
High School	1996	U. P. Board Allahabad	74.5

Positions held

Position	Name of the Institute	Duration
Assistant Professor	Department of Geology and Geophysics, Indian Institute of Technology Kharagpur	Oct 2013 to Present
Scientific researcher	Institute of Geophysics and Meteorology, University of Cologne, Germany	Sept 2010 – Sept 2013

Awards and Achievements

- One of my paper "**Kumari Sudha**, M. Israil, S. Mittal and J. Rai, Soil characterization using electrical resistivity tomography and geotechnical investigations, Journal of Applied Geophysics 67 74 (2009)" was rated in ***Top 25 article of the year on 8th rank***.

- **DAAD Fellow** (German Academic Exchange Fellowship) from *June 2007-Sept. 2009*. To pursue part of Ph.D. in Germany at Institute of Geophysics and Meteorology, University of Cologne, Germany

- Research fellowship from **Ministry of Human Resource and Development, India** for the period 2004-2007 for pursuing Ph.D. research work at I.I.T. Roorkee.

- **Senior research fellowship** from CSIR, New Delhi for the period April 2010 onwards. (not availed)

- Qualified **National Eligibility Test (NET) 2004** for Lectureship conducted by University Grant Commission (UGC), New Delhi on all India test basis after availing Master's Degree in Physics. (not availed)

Ph.D. dissertation

Thesis Title: Near-surface studies using geoelectrical and EM techniques in northern India

Areas of specialization

- Helicopter-borne electromagnetics (for imaging shallow earth structures)
- Application of electrical and electromagnetic methods (Time-domain electromagnetic, Radiomagnetotellurics and Helicopter-borne electromagnetics) to environmental problems
- Joint inversion of electrical and electromagnetic methods

Current areas of research

- Deep earth exploration using Magnetotellurics
- Unconventional energy resources (reservoir potential evaluation through modelling and simulation)
- Placer deposits exploration using geophysical and geochemical techniques
- NAPL contaminated sites characterization

Ph.D. and M.Sc. dissertation supervision

- PhD dissertation supervision: ongoing-5
- MTech dissertation supervision: ongoing-1
- MSc dissertation supervision: completed-8, ongoing-7

Sponsored projects

Project title	**Investigator**	**Sponsor**	**Duration**	**Value (Rs)**
Delineation of geoelectrical structure using electrical and EM measurements across Singhbhum and South Purulia Shear Zone: Implication to uranium mine	PI: Sudha Agrahari	IIT Kharagpur	2014-2017	28 Lakhs
Marine geophysical and geochemical surveys for the delineation of the REE deposits along Odisha Coastal region	PI: Sudha Agrahari	Department of Science and Technology, Govt. of India	2015-2018	22.2 Lakhs

List of publications

***Chapter in Edited Book*:**

1. Götze H. J., Afanasjew M., Alvers M., Alvers L. B., Börner R. U., Brandes C., Eröss R., Menzel P., Meyer U., Scheunert M., Siemon B., Spitzer K., Steinmetz D., Stoll J., **Sudha**, Tezkan B., Ullmann A. and Winsemann J., "Towards an Integrative Inversion and Interpretation of Airborne and Terrestrial Data" in the book entitled "*Tomography of the Earth's Crust: From Geophysical Sounding to Real-Time Monitoring*", Advanced Technologies in Earth Sciences, 2014, pp 21-41 (DOI: 10.1007/978-3-319-04205-3_2, © Springer International Publishing Switzerland 2014).

Peer Reviewed Publications

1. K. Parial, A. Biswas, **S. Agrahari**, S. P. Sharma and D. Sengupta, "Identification of contaminated zones using direct current resistivity surveys in and around ash ponds near Kolaghat thermal power plant, West Bengal, India", *International Journal of Geology and Earth Sciences* Vol 1(2) 55 (2015).
2. Kajori Parial, R. Guin, **S. Agrahari** and D. Sengupta, "Monitoring of Radionuclide migration around Kolaghat Thermal Power Plant, West Bengal, India", *Journal of Radioanalytical and Nuclear Chemistry* (2015) doi/10.1007/s10967-015-41`52-z.
3. **Sudha**, B. Tezkan and B. Siemon, "Appraisal of a new 1D weighted joint inversion of ground based and helicopter-borne electromagnetic data", *Geophysical Prospecting* Vol. 62(3) pp 597-614 (2014).
4. **Kumari Sudha**, B. Tezkan, M. Israil and J. Rai, "Combined electrical and electromagnetic imaging of hot fluids within fractured rock in rugged Himalayan terrain", *Journal of Applied Geophysics* 74 205 (2011).
5. **Sudha**, B. Tezkan, M. Israil, D. C. Singhal and J. Rai, "Geoelectrical mapping of aquifer contamination: a case study from Roorkee, India", *Near Surface Geophysics* 8(1) 33 (2010).
6. **Kumari Sudha**, M. Israil, S. Mittal and J. Rai, "Soil characterization using electrical resistivity tomography and geotechnical investigations", *Journal of Applied Geophysics* 67 74 (2009).

7. M. Israil, **Kumari Sudha**, D. C. Singhal, Pravin K. Gupta, Sosina Shimeles and Vinay K. Sharma, "Direct determination of aquifer configuration using Geoelectrical techniques in a Piedmont zone, Himalayan foothills region, India", *Current Science* 92(9) 1293 (2007).

Conferences attended:

1. **Sudha**, Buelent Tezkan and Bernhard Siemon, "A new 1D weighted joint inversion algorithm for ground based and helicopter-borne electromagnetic data", 73rd *Annual Meeting of the German Geophysical Society, Leipzig, Germany,* March 4th – 7th (2013).
2. **Sudha**, Buelent Tezkan and Bernhard Siemon, "Appraisal of 1D weighted joint inversion of ground based and helicopter-borne electromagnetic data", *Towards the Energy Security – Exploration, Exploitation and New Strategies, 49th Annual Convention of Indian Geophysical Union, Gandhi Nagar, India,* Oct. 29th – 31st (2012).
3. **Sudha**, Buelent Tezkan and Bernhard Siemon, "Joint inversion of ground-based and helicopter-borne electromagnetic data", *Near Surface Geoscience, European Association of Geoscientists and Engineers, Paris, France,* Sept. 3rd – 5th (2012).
4. **Sudha**, Buelent Tezkan and Bernhard Siemon, "Joint inversion of ground-based and helicopter-borne electromagnetic data", 72nd *Annual Meeting of the German Geophysical Society, Hamburg, Germany,* March 4th – 8th (2012).
5. M. Israil, B.Tezkan, P. Yogeshwar, M. von Papen, **Sudha** and P. K. Gupta, "Mapping the groundwater contamination around Roorkee, India; using TEM and DC resistivity measurements: Case study", *Recent Advances in Ground and Airborne Electromagnetic Methods, Hyderabad, India,* Sept. 27-28 (2011).
6. **Sudha**, Buelent Tezkan and Bernhard Siemon, "Joint inversion of ground-based and helicopter-borne electromagnetic data", *24th Colloquium Electromagnetic depth Research, Neustadt, Germany,* Sept. 26-30 (2011).
7. **Sudha**, Rudolf Eroess, Buelent Tezkan, Johannes Baptist Stoll and Bernhard Siemon, "Aero-Ground joint inversion/Geophysical application of Unmanned Aerial System", 71*th Annual Meeting of the German Geophysical Society, Cologne, Germany,* February 21st – 24th (2011).
8. M. Israil, **Sudha**, B. Tezkan, P. K. Gupta and J. Rai, "Joint inversion of TEM and DC resistivity data for mapping the groundwater contamination around Roorkee area, India" *IAGA WG 1.2 on Electromagnetic Induction in the Earth 20th Workshop Abstract Giza, Egypt* , September 18-24 (2010)**.**
9. **Sudha**, B. Tezkan, M. Israil and Jagdish Rai, "Investigation of a waste site in Roorkee, India using RMT: a case study", *IAGA WG 1.2 on Electromagnetic Induction in the Earth 20th Workshop Abstract Giza, Egypt* , September 18-24 (2010)**.**
10. **Sudha**, B. Tezkan, M. Israil and J. Rai, "Multi-dimensional Interpretation of DC and TEM data observed on Geothermal Area in Garhwal Himalaya, India", *19th International Workshop on Electromagnetic Induction in the Earth, Beijing, China,* October 23-29, (2008).
11. **Sudha**, B. Tezkan, M. Israil and J. Rai, "Mapping of groundwater contamination due to waste disposal in Roorkee area, India", *68th Annual Meeting of the German Geophysical Society, Freiberg, Germany,* March 3rd – 6th (2008).
12. **Sudha**, M. Israil, D. C. Singhal, P. K. Gupta, S. Shimeles, V. K. Sharma and J. Rai, "Electrical characterization of Pathri-Rao watershed I Himalayan foothills region, Uttarakhand, India", *22nd Colloquium Electromagnetic depth Research, Decin, Czech republic,* Oct. 1-5 (2007).
13. **Kumari Sudha**, M. Israil, S. Mittal and J. Rai, "Correlation of Geoelectrical and Dynamic cone penetration test results for geotechnical investigations", *Third International Seminar and Exhibition on Exploration Geophysics on Exploration Geophysics, Hyderabad, India,* Nov. 6-12 pp A-37 (2006).