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Summary on Current Areas of Research

1. Integrated Geophysical Research.
2. Near Surface Geophysics.
3. Theoretical Modeling of 2-D and 3-D Subsurface Structures.
4. Global Optimization and Inversion of Geophysical Data.
5. Mineral and Groundwater Exploration and Contamination using Integrated Geophysical approach.

Educational Qualification

2013: **Ph.D.** in Exploration Geophysics, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, India. (**Enrollment:** 22nd July 2009; **Registration:** 11th August 2011; **Submitted:** 27th August, 2013; **Defense:** 18th December, 2013)

Thesis Title: Identification and resolution of ambiguities in interpretation of Self-Potential data: Analysis and integrated study around South Purulia Shear Zone, India. (No. NB14895)

Advisor: Professor Shashi Prakash Sharma.

DOI: <http://www.idr.iitkgp.ac.in/xmlui/handle/123456789/3247>

2009: **Post Graduate Diploma** in Petroleum Exploration, Annamalai University, India.

2006: **Master of Technology** in Earth & Environmental Science, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, India.

Thesis Title: Electrical Resistivity Survey over the Subsurface Alluvium Aquifers around Barasat in North-24 Parganas (West-Bengal): Implication to Arsenic Contamination.

Advisor: Professor's Shashi Prakash Sharma and Anindya Sarkar.

2004: **Master of Science** in Geological Sciences, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, India.

Thesis Title: Delineation of Groundwater Potential Zones in Parts of Ganjam District, Orissa using Remote Sensing and Geographic Information System.

Advisor: Professor Amit Kumar Bhattacharya.

2002: **Bachelors of Science (Honors)** in Geology, Presidency College (University of Calcutta), Kolkata, India.

Professional/Academic Experience

- October 2017** – Assistant Professor, Department of Geology, Centre of Advanced Study, Institute of Science, Banaras Hindu University, Varanasi.
Present
- May 2016** – Research Associate, Geophysics Group, Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand, India. (Position offered in March 2016)
October 2017
- April 2014** – Visiting Faculty, Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India.
December 2015:
- January 2014** – Project Fellow, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, India. (Mentor: Prof. S. P. Sharma)
March 2014
- July 2009** – Senior Research Fellow (Ph. D. Candidate), Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, India. (Advisor: Prof. S. P. Sharma)
December 2013
- January 2007** – Electromagnetic Onboard Processing Field Engineer/Geophysicist, Western Geco
March 2008: Electromagnetics, Schlumberger, Navi Mumbai, Maharashtra.
- August 2006** – Geophysicist, Geostar Surveys India Pvt. Ltd, Navi Mumbai, Maharashtra.
November 2006:

Honors/Awards/Scholarships/Job offers

- August 2018** Certificate of Outstanding Contribution in Reviewing for Journal “Journal of Hydrology”, Elsevier.
- August 2017:** Certificate of Outstanding Contribution in Reviewing for Journal “Ore Geology Reviews”, Elsevier.
- June 2017:** Certificate of Outstanding Contribution in Reviewing for Journal “Groundwater for Sustainable Development”, Elsevier.
- June 2017:** Assistant Professor for combined Department of Civil Engineering and Petroleum Engineering, School of Engineering, Presidency University, Bangalore. (Position offered but not Joined).
- November 2016:** Department of Science and Technology (DST) and Science and Engineering research Board (SERB) Travel Grant for attending AGU 2016 Conference.
- September 2016:** Certificate of Outstanding Contribution in Reviewing for Journal “Applied Radiation and Isotopes”, Elsevier.
- March 2016:** Institute Research Associate Fellowship from Wadia Institute of Himalayan Geology, Dehradun, India. (*Independent Researcher*).
- January 2016:** Letter of appreciation from the Director for outstanding teaching for the course “Remote Sensing of the Environment” at IISER Bhopal.
- January 2016:** Letter of appreciation from the Director for outstanding teaching for the course “Mineralogy” at IISER Bhopal.
- June 2015:** Letter of appreciation from the Director for outstanding teaching for the course “Geohazards” at IISER Bhopal.
- November 2012:** Council of Scientific and Industrial Research (CSIR) Travel Grant for attending AGU 2012 Conference.
- November 2012:** Indian Institute of Technology (IIT) Kharagpur, Institute Travel Grant for attending

- AGU 2012 Conference.
- October 2012:** ONGC-IGU Best Poster (First) award in the Research Scholar Poster session at 49th Annual convention of IGU at PDPU, Gandhinagar, Gujarat (Joint).
- March 2012:** Awarded 1st in Technical Presentation (Oral) in *Prithvi*, Department of Geology and Geophysics, IIT Kharagpur – SEG-AAPG-SPG student’s chapter, Kharagpur.
- October 2010:** Best Poster Presentation award in National Workshop on *Advances in Exploration Geophysics for Young Researchers*, Best Poster Presentation award, Hyderabad.
- July 2009:** Institute Senior Research Fellowship from MHRD at Indian Institute of Technology Kharagpur.
- April 2004:** Qualified GATE (Graduate Aptitude Test in Engineering) in Earth Sciences.

Invited Lecture/Talks

- November 2018:** Self-Potential method: In quest for subsurface mineral exploration. Workshop on “*Advances in Earth System Science*” and Annual Meeting of Editorial Board member of Journal of Earth System Sciences, Indian Academy of Sciences, Bangalore at Department of Geology, Banaras Hindu University, Varanasi.
- January 2018:** Self-Potential Method in Mineral Exploration: Theoretical Modeling, Inversion and Interpretation. *Indian Institute of Science Education and Research (IISER) Kolkata*, Mohanpur, West-Bengal India.
- July 2017:** Theoretical Modeling and Inversion of Geophysical data and Application to Mineral Exploration. *Center for Studies in Resource Engineering, Indian Institute of Technology Bombay*, India.
- May 2017:** Global Optimization of Potential Field Method: Modeling, Inversion and Ambiguity. *Wadia Institute of Himalayan Geology*, Dehradun, India.
- September 2015:** Ambiguity in interpretation of Potential field data and application to mineral exploration. *Indian Institute of Science Education and Research (IISER) Bhopal*, Bhopal, India.
- May 2015:** Ambiguity in interpretation of Self-Potential anomaly and integrated study around South Purulia Shear Zone, India, *Indian Institute of Science Education and Research (IISER) Mohali*, Chandigarh, India.
- December 2014:** Identification and Resolution of Ambiguities in Interpretation of Self-Potential data: Analysis and integrated study around South Purulia Shear Zone, India, Department of Geology and Geophysics, *Indian Institute of Technology Kharagpur*, India.
- March 2014:** Deep seated hydrocarbon exploration (Mesozoic and Palaeozoic reservoirs) using Electromagnetic sounding at *National Symposium on “Geo-Exploration: Advancing science towards newer fields & areas”*, *Prithvi*, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur in association with Student Chapters of *Society of Exploration Geophysicist (SEG)*, *American Association of Petroleum Geologist (AAPG)* and *Society of Petroleum Geophysicist (SPG)*, Kharagpur, India.
- October 2012:** Efficacy of very fast simulated annealing global optimization method for interpretation of self-potential anomaly by different forward formulation over 2D inclined sheet type structure. Research Scholar’s Day, Department of Geology and Geophysics, *Indian Institute of Technology Kharagpur*, India.
- August 2011:** Development of Techniques for Estimation of Static Shift in Magnetotelluric and Deep Resistivity Sounding for delineation of subsurface structure around South Purulia Shear Zone, *Indian Institute of Technology Kharagpur*, India.
- March 2011:** Interpretation of 1-D Magnetotelluric sounding data and the estimation of static

- shift using Global nonlinear optimization technique. Research Scholar's Day, Department of Geology and Geophysics, Research Scholar's Day, **Indian Institute of Technology Kharagpur**, India.
- October 2010:** Exploration and Exploitation of Hydrocarbon and Petroleum from Shale Formation at **National Workshop on Advances in Exploration Geophysics for Young Researchers**, Society of Petroleum Geophysicist (SPG) and National Geophysical Research Institute (NGRI), Hyderabad, India.
- March 2010:** Marine Electromagnetic methods—A new tool for offshore exploration. Research Scholar's Day, Department of Geology and Geophysics, Research Scholar's Day, **Indian Institute of Technology Kharagpur**, India.
- May 2006:** Electrical Resistivity Survey Over The Subsurface Alluvium Aquifers Around Barasat In North 24-Parganas (West-Bengal): Implication To Arsenic Contamination, **Indian Institute of Technology Kharagpur**, India.
- May 2004:** Delineation of Groundwater Potential zones in parts of Ganjam District, Orissa using Remote Sensing and Geographical Information System, **Indian Institute of Technology Kharagpur**, India.

Trainings/Workshops/Conferences/Internship

- November 2018:** Workshop on "**Advances in Earth System Science**" and Annual Meeting of Editorial Board member of Journal of Earth System Sciences, Indian Academy of Sciences, Bangalore at Department of Geology, Banaras Hindu University, Varanasi.
- October 2018:** 13th Program on "**Modern Practices in Petroleum Exploration**", by Federation of Indian Petroleum Industry (FIPI) (Erstwhile Petrotech & PetroFed) to strengthen Industry-Academia linkage, FIPI in collaboration with Keshava Deva Malaviya Institute of Petroleum Exploration (KDMIPE) of Oil and Natural Gas Corporation Ltd (ONGC), Dehradun.
- September 2018:** 4th South Asian Geoscience Conference and Exhibition (**GEOIndia-2018**) on **Transforming Energy Spectrum: Geosciences at the fulcrum** organized by Association of Petroleum Geologist (APG), New Delhi.
- November 2012:** Second Indo-German Workshop on **Deep Electromagnetic Induction (Magnetotelluric Data Acquisition, Processing and Modeling)**, organized by Gujarat Energy Research and Management Institute (GERMI), Pandit Deendayal Petroleum University (PDPU), Institute of Seismological Research (ISR) and National Geophysical Research Institute (NGRI), Hyderabad, India.
- October 2011:** International Workshop on **Recent Advances in Ground and Airborne Electromagnetic Methods- Innovations in Processing and Inversion Techniques**, organized by Atomic Mineral Directorate for Exploration and Research (AMD), National Geophysical Research Institute (NGRI) and Geological Survey of India (GSI), Hyderabad, India.
- October 2010:** National Workshop on **Advances in Exploration Geophysics for Young Researchers**, organized by National Geophysical Research Institute (NGRI) and Society of Petroleum Geophysicist (SPG) Students Chapter, Hyderabad, India.
- May-June 2003:** **National Geophysical Research Institute, Council of Scientific and Industrial Research (CSIR) Laboratory, Hyderabad India.**
Topic: Analytical Techniques for Analysis of Gold in Geological Materials for Exploration Studies.
Advisor: Dr. V. Balaram, Scientist-G Geochemistry Group (NGRI).

Research Projects/Consultancy Projects/Grants

- January 2019:** PI of the project entitled “*Geophysical and Hydrogeological investigation of saline water intrusion in coastal aquifers of West Bengal, India*”. (10,00,000/- INR) from UGC-Startup Grant – *Ongoing*.
- February 2018:** Field Grant from Centre of Advanced Study, Institute of Science, Banaras Hindu University, Varanasi. (8,850.00/- INR) – *Completed*.

Academic Recognition

- Editorial Board Member:** **Associate Editor**, *Journal of Earth System Sciences* (JESS), Indian Academy of Sciences (IAS), Bangalore and Springer from January 2018 to December 2020. ([link](#))
- Peer-Reviewer (International):** Geophysics (SEG), Geophysical Prospecting, Near Surface Geophysics, Journal of Applied Geophysics, Pure and Applied Geophysics, Annals of Geophysics, Journal of Geophysics and Engineering, Exploration Geophysics, Acta Geodaetica et Geophysica, Acta Geophysica, Ore Geology Reviews, Gondwana Research, Natural Resources Research, Journal of Hydrology, Tectonophysics, Interpretation, Environmental Monitoring and Assessment, Applied Radiation and Isotopes, Environmental Earth Sciences, Geocarto International, Journal of African Earth Sciences, Journal of Earth System Sciences, Mine Water and Environment, Arabian Journal of Geosciences, Bulletin of Mineral Research and Exploration, Groundwater for Sustainable Development, Spatial Information Research, Sustainable Water Resources Management, Current Science, Journal of the Geological Society of India (***More than 70 Papers reviewed till date in SCI/SCIE Journals***).

Conference/Seminar/Workshop/Meetings Organized

- October 2019:** National Conference on “***Recent Trends in Earth Science Research and Centennial Celebrations***” at Department of Geology, Banaras Hindu University, Varanasi, 12–14 October, 2019 (*Co-convener*).
- October–November 2018:** Workshop on “***Advances in Earth System Science***” and Annual Meeting of Editorial Board member of Journal of Earth System Sciences, Indian Academy of Sciences, Bangalore at Department of Geology, Banaras Hindu University, Varanasi, 31st Oct–1st November, 2018 (*Associate Editor as Host Institute*).
- October 2018:** National Conference on “***Advances in Mantle Petrology***” at Department of Geology, Banaras Hindu University, Varanasi 4th–5th October 2018 (*Joint Organizing Secretary*).

Administrative/Department/Institute/Other Activities

- September 2018–June 2019:** **Placement Officer** from the Department of Geology for BHU Placement Coordination Cell, Banaras Hindu University, Varanasi.
- July 2018–June 2019:** **Faculty Coordinator** for M. Sc. Semester III and IV (Final Year), Department of Geology, Banaras Hindu University, Varanasi.
- July 2018–June 2019:** **Training and Placement Co-convener** for M. Sc. (Final Year), Department of Geology, Banaras Hindu University, Varanasi.
- July 2018–June 2019:** **Faculty Coordinator** for BHU-AAPG Students Chapter, Department of Geology, Banaras Hindu University, Varanasi.

Teaching Experience

Banaras Hindu University (BHU), Varanasi

Undergraduate (B. Sc. Course)

1. Hydrogeology, Mineral Exploration and Computer Application (UG-Theory): **2018-2019**
2. Paleontology and Stratigraphy (UG-Theory and Practical): **2019**

Postgraduate (M.Sc. Course)

1. Hydrogeology (Theory and Practical): **2017-2019**
2. Petroleum Exploration (Theory and Practical): **2018-2019**
3. Mineral Exploration and Mining Economics (Theory and Practical): **2019**
4. Exploration Geophysics (Theory and Practical): **2019** (Course Designed and Introduced)
5. Stratigraphy, Economic Geology and Petroleum Geology (Theory and Practical): **2019** – Geophysics Department, BHU Varanasi.

Ph. D. Course

1. Advanced Hydrogeology: **2018**
2. Coal and Petroleum System Analysis: **2018**
3. Solid Earth Geophysics and Planetary Interiors: **2019** (Course Designed and Introduced- Jointly with Dr. Sayandeep Banerjee, Department of Geology, BHU, Varanasi)

Indian Institute of Science Education and Research (IISER) Bhopal (with teaching feedback)

1. Introduction to Earth Sciences (UG-Theory): **2014** – 3.71/5.
2. Aqueous Geochemistry (PG-Theory): **2014** – 3.75/5.
3. Remote Sensing of Natural Environment (PG-Theory and Practical): **2014** – 4.45/5; **2015** – 4.66/5.
4. Mineralogy (UG-Theory): **2014** – 4.48/5; **2015** – 4.52/5.
5. Solid Earth Geophysics (PG-Theory and Practical): **2015** – 4.41/5. (Course Designed and Introduced)
6. Geo-hazards (UG and PG-Theory): **2015** – 4.50, 4.62/5

Membership of International and National Societies

Active Member: Society of Exploration Geophysicist (SEG), ID.164371.

Life Fellow: International Science Congress Association (ISCA), ISCA-FM-112.

Life Member: Indian Geophysical Union (IGU).

Life Member: International Association of Engineers (IAENG), ID.150460.

Member: International Association of Hydrological Science (IAHS-AIHS) ID.11253.

Thesis/Dissertation Guidance/Project

Doctoral (Ph. D)

1. **Prashant Kumar (2018–present)**. Integrated Geophysical, Hydrogeological and Remote Sensing investigation of saline water intrusion in coastal aquifers of West Bengal, India.

Masters (M. Sc. in Geology)

1. **Shraddha Jain (2020)**. Interpretation of Self-Potential data for idealized geobodies using linear and global optimization techniques. (*Ongoing*)
2. **Shubham Mishra (2020)**. Estimation of Aquifer parameters from Vertical Electrical Sounding (VES) data. (*Ongoing*)

Masters (M. Sc.-Tech in Petroleum Geosciences)

1. **Sonam Trivedi (2018)**. Global optimization of source parameters from the 2-D analytic signal of potential field anomalies over geo-bodies with idealized structure. BHU, Varanasi. (Completed)

Project

1. **Vishnu Ratnam Pandey (2019)**. Very low frequency electromagnetic methods for shallow subsurface investigation. (*Ongoing*)

List of Publication (*)-Ph.D. Thesis, (\$) -Student Paper, Corresponding Author-underline (Total Citation: 572, h-index: 15, i10 index: 22)

Book/Edited Volume

1. **Biswas, A.**, Sharma, S. P. (2020). **Advances in Modeling and Interpretation in Near Surface Geophysics**, Edited Book Volume, Geophysics Series, Springer International Publishing. ISSN: 2364-9119, (ISBN: [978-3-030-28908-9](#)) (Hardcover).

Book Chapter

1. Trivedi, S., Kumar, P., **Biswas, A.**, Parija, M. P. (2020). Global Optimization of Model Parameters from the 2-D Analytic Signal of Gravity and Magnetic anomalies, In: Biswas, A., and Sharma, S. P. (Eds), **Advances in Modeling and Interpretation in Near Surface Geophysics**, Springer International Publishing. (*Accepted in Press*).
2. **Biswas, A.** (2019). Inversion of amplitude from the 2-D analytic signal of self-potential anomalies, In: Essa, K. (Ed), **Minerals**, In Tech Education and Publishing, London, UK. (ISBN: 978-953-51-6784-6). (DOI: [10.5772/intechopen.79111](#)).
3. Sharma, S. P., **Biswas, A.**, Baranwal, V. C. (2014). Very low frequency electromagnetic method – A shallow subsurface investigation technique for geophysical applications, In: Sengupta, D. (Ed), **Recent Trends in Modeling of Environmental Contaminants**, Springer, Netherland, XV, 119–141. (ISBN: [978-81-322-1782-4](#)) (Hardcover). (DOI: [10.1007/978-81-322-1783-1_5](#)).

Peer-Reviewed Journals

Theoretical Modeling, Inversion and Interpretation

1. **Biswas, A.** (2018). Inversion of source parameters from magnetic anomalies for mineral /ore deposits exploration using global optimization technique and analysis of uncertainty. **Natural Resources Research**, **27**(1), 77–107. (DOI: [10.1007/s11053-017-9339-2](#)). (*IF*-2.0)
2. **Biswas, A.** (2017). A review on modeling, inversion and interpretation of Self-Potential in mineral exploration and tracing paleo-shear zones. **Ore Geology Reviews**, **91**, 21–56. (DOI: [10.1016/j.oregeorev.2017.10.024](#)). (*Review Paper*) (*IF*-3.387)
3. **Biswas, A.**, Parija, M. P., Kumar, S (2017). Global nonlinear optimization for the interpretation of

- source parameters from total gradient of gravity and magnetic anomalies caused by thin dyke. **Annals of Geophysics**, **60** (2), G0218, 1–17. (DOI: [10.4401/ag-7129](https://doi.org/10.4401/ag-7129)). (IF-1.531)
4. **Biswas, A.**, Sharma, S. P. (2017). Interpretation of Self-potential anomaly over 2-D inclined thick sheet structures and analysis of uncertainty using very fast simulated annealing global optimization. **Acta Geodaetica et Geophysica**. **52**(4), 439–455, (DOI: [10.1007/s40328-016-0176-2](https://doi.org/10.1007/s40328-016-0176-2)). (IF-0.942) *
 5. Singh, A., **Biswas, A.** (2016). Application of global particle swarm optimization for inversion of residual gravity anomalies over geological bodies with idealized geometries. **Natural Resources Research**, **25**(3), 297–314. (DOI: [10.1007/s11053-015-9285-9](https://doi.org/10.1007/s11053-015-9285-9)). (IF-2.0) §
 6. **Biswas, A.**, Acharya, T. (2016). A Very Fast Simulated Annealing (VFSA) method for inversion of magnetic anomaly over semi-infinite vertical rod-type structure. **Modeling Earth Systems and Environment**, **2**(4), 198. (DOI: [10.1007/s40808-016-0256-x](https://doi.org/10.1007/s40808-016-0256-x)).
 7. **Biswas, A.** (2016). Interpretation of gravity and magnetic anomaly over thin sheet-type structure using very fast simulated annealing global optimization technique. **Modeling Earth Systems and Environment**, **2**(1), 30. (DOI: [10.1007/s40808-016-0082-1](https://doi.org/10.1007/s40808-016-0082-1)).
 8. **Biswas, A.** (2016). A comparative performance of least square method and Very fast simulated annealing global optimization method for interpretation of Self-Potential anomaly over 2-D inclined sheet type structure. **Journal of the Geological Society of India**, **88**(4), 493–502. (DOI: [10.1007/s12594-016-0512-8](https://doi.org/10.1007/s12594-016-0512-8)). (IF-0.949)
 9. **Biswas, A.** (2015). Interpretation of residual gravity anomaly caused by a simple shaped body using very fast simulated annealing global optimization. **Geoscience Frontiers**, **6**(6), 875–893. (DOI: [10.1016/j.gsf.2015.03.001](https://doi.org/10.1016/j.gsf.2015.03.001)). (IF-4.160)
 10. **Biswas, A.**, Sharma, S. P. (2015). Interpretation of self-potential anomaly over idealized body and analysis of ambiguity using very fast simulated annealing global optimization. **Near Surface Geophysics**, **13** (2), 179–195. (DOI: [10.3997/1873-0604.2015005](https://doi.org/10.3997/1873-0604.2015005)). (IF-1.186) *
 11. **Biswas, A.**, Sharma, S. P. (2014). Resolution of multiple sheet-type structures in self-potential measurement. **Journal of Earth System Science**, **123**(4), 809–825. (DOI: [10.1007/s12040-014-0432-1](https://doi.org/10.1007/s12040-014-0432-1)). (IF-1.104) *
 12. **Biswas, A.**, Sharma, S. P. (2014). Optimization of Self-Potential interpretation of 2-D inclined sheet-type structures based on Very Fast Simulated Annealing and analysis of ambiguity. **Journal of Applied Geophysics**, **105**, 235–247. (DOI: [10.1016/j.jappgeo.2014.03.023](https://doi.org/10.1016/j.jappgeo.2014.03.023)). (IF-1.357) *
 13. Sharma, S. P., **Biswas, A.** (2013). Interpretation of self-potential anomaly over 2D inclined structure using very fast-simulated annealing global optimization—An insight about ambiguity. **Geophysics**, **78** (3), WB3–15. (DOI: [10.1190/geo2012-0233.1](https://doi.org/10.1190/geo2012-0233.1)). (IF-2.793) *
 14. Sharma, S. P., **Biswas, A.** (2013). A practical solution in delineating thin conducting structures and suppression problem in direct current resistivity sounding. **Journal of Earth System Science**, **122** (4), 1065–1080. (DOI: [10.1007/s12040-013-0327-6](https://doi.org/10.1007/s12040-013-0327-6)). (IF-1.104) *
 15. Sharma, S. P., **Biswas, A.** (2011). Global nonlinear optimization for the estimation of static shift and interpretation of 1-D Magnetotelluric sounding data. **Annals of Geophysics**, **54** (3), 249–264. (DOI: [10.4401/ag-4766](https://doi.org/10.4401/ag-4766)). (IF-1.531)

Exploration, Environmental and Integrated Geophysical Research

16. **Biswas, A.**, Sharma, S. P. (2017). Geophysical Surveys for Identifying Source and Pathways of Subsurface Water Inflow at the Bangur Chromite Mine, Odisha, India. **Natural Hazards**, **88**(2), 947–964. (DOI: [10.1007/s11069-017-2899-y](https://doi.org/10.1007/s11069-017-2899-y)). (IF- 2.319)
17. **Biswas, A.**, Sharma, S. P. (2016). Integrated geophysical studies to elicit the structure associated with Uranium mineralization around South Purulia Shear Zone, India: A Review. **Ore Geology Reviews**, **72**, 1307–1326. (DOI: [10.1016/j.oregeorev.2014.12.015](https://doi.org/10.1016/j.oregeorev.2014.12.015)). (Review Paper) (IF-3.387) *
18. **Biswas, A.**, Sharma, S. P. (2015). Can very low frequency electromagnetic data detect graphite deposits in the subsurface? Initial results from Daltanganj, Jharkhand, India. **Journal of the**

Geological Society of India, 86(5), 530–234. (DOI: [10.1007/s12594-015-0343-z](https://doi.org/10.1007/s12594-015-0343-z)). (IF-0.949)

19. **Biswas, A.**, Mandal, A., Sharma, S. P., Mohanty, W. K. (2014). Delineation of subsurface structure using self-potential, gravity and resistivity surveys from South Purulia Shear Zone, India: Implication to uranium mineralization. **Interpretation**, 2(2), T103–T110. (DOI: [10.1190/INT-2013-0170.1](https://doi.org/10.1190/INT-2013-0170.1)). (IF-1.172) *
20. **Biswas, A.**, Mandal, A., Sharma, S. P., Mohanty, W. K. (2014). Integrating apparent conductance in resistivity sounding to constrain 2D Gravity modeling for subsurface structure associated with uranium mineralization across South Purulia Shear Zone. **International Journal of Geophysics**, 2014, Article ID 691521, 1–8. (DOI: [10.1155/2014/691521](https://doi.org/10.1155/2014/691521)). (IF-1.110) *

Remote Sensing and GIS Application

21. **Biswas, A.**, Jana, A., Mandal, A. (2013). Application of remote sensing, GIS and MIF technique for elucidation of groundwater potential zones from a part of Orissa coastal tract, Eastern India. **Research Journal of Recent Sciences**, 2(11), 42–49.
22. **Biswas, A.**, Jana, A., Sharma, S. P. (2012). Delineation of Groundwater potential zones using Remote Sensing and Geographic Information System Techniques: A case study from Ganjam district, Orissa, India. **Research Journal of Recent Sciences**, 1(9), 59–66.

Other Collaborative Research Work (Geophysics, Remote Sensing and GIS)

23. Gautam, P. K., Sathyaseelan, R., Pappachen, J. P., Kumar, N., **Biswas, A.**, Philip, J., Dabral, C. P., Pal, S. K. (2019). GPS measured static and kinematic offsets at near and the far field of the 2011 Mw 9.0 Tohoku-Oki earthquake. **Geodesy and Geodynamics**, (DOI: [10.1016/j.geog.2019.03.003](https://doi.org/10.1016/j.geog.2019.03.003)).
24. Acharya, T., Kumbhakar, S., Prasad, R., Mondal, S., **Biswas, A.** (2019). Delineation of potential groundwater recharge zones in the coastal area of north-eastern India using geoinformatics. **Sustainable Water Resources Management**, 5, 533–540. (DOI: [10.1007/s40899-017-0206-4](https://doi.org/10.1007/s40899-017-0206-4)).
25. Acharya, T., **Biswas, A.**, Bhattacharyya, A., Chakraborty A., Chakraborty M., Sarkar, T., (2018). Vulnerability mapping of saline water intrusion in coastal aquifers of West-Bengal, India using flow-net approach. **Indian Groundwater**, 10, 46–56.
26. Jana, A., Maiti, S., **Biswas, A.** (2017). Appraisal of Long-Term Shoreline Oscillations from a Part of Coastal Zones of Sundarban Delta, Eastern India – A Study Based on Geospatial Technology. **Spatial Information Research**, 25, 713–723. (DOI: [10.1007/s41324-017-0139-x](https://doi.org/10.1007/s41324-017-0139-x)).
27. Gautam, P. K., **Biswas, A.** (2016). 2D Geo-electrical imaging for shallow depth investigation in Doon Valley Sub-Himalaya, Uttarakhand, India. **Modeling Earth Systems and Environment**, 2(4), 175. (DOI: [10.1007/s40808-016-0225-4](https://doi.org/10.1007/s40808-016-0225-4)).
28. Jana, A., Maiti, S., **Biswas, A.** (2016). Analysis of Short-Term Shoreline Oscillations Along Midnapur-Balasore Coast, Bay of Bengal, India-A study based on Geospatial technology. **Modeling Earth Systems and Environment**, 2(2), 64. (DOI: [10.1007/s40808-016-0117-7](https://doi.org/10.1007/s40808-016-0117-7)).
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3. **Biswas, A.** (2016). Global nonlinear optimization for the interpretation of magnetic anomalies over idealized geological bodies for ore exploration – An insight about uncertainty, **American Geophysical Union, Fall Meeting, San Francisco**, Published online, NS41A-1893.
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20. Mittal, S., **Biswas, A.**, Sharma, S. P., Sengupta, D. (2012). VLF-EM and Radiometric studies around Beldih mine in South Purulia Shear Zone, India, **49th Indian Geophysical Union (IGU) Annual Convention**, pp. 107.
21. **Biswas, A.**, Sharma, S. P. (2006). Electrical Resistivity Survey over the Subsurface Alluvium Aquifer around Barasat in North 24 Parganas (West Bengal): Implication to Arsenic Contamination, Presented at **National Seminar on Environment, Drinking Water and Public Health**, Palli Charcha Kendra,

ViswaBharati University, Shantiniketan, pp. 12.

Computer Proficiency

1. **Environments:** Windows.
2. **Programming Language:** FORTRAN, Matlab.
3. **Application Software:** MS-Office, MS Developer Studio, Origin, Grapher, Surfer, Ultraedit, Corel Draw.
4. **Processing and Interpretation:** WinGLink, Res2DInv, Res3DInv.

Software/Code/Algorithm(Developed/Modified)

1. **VFSASP.f:** Inversion of Self-Potential data using Very Fast Simulated Annealing.
2. **VFSAG.f:** Inversion of Gravity data using Very Fast Simulated Annealing.
3. **VFSAM.f:** Inversion of Magnetic data using Very Fast Simulated Annealing.
4. **PSOG.m:** Inversion of Gravity data using Particle Swarm Optimization.
5. **PSOM.m:** Inversion of Magnetic data using Particle Swarm Optimization.

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Declaration: I hereby declare that the above information is correct to the best of my knowledge.

Date: 22/075/2019

Place: Varanasi

Arkoprovo Biswas