CURRICULUM-VITAE

Dr. AMIT KUMAR GORAI
Present Position: Associate Professor,
Department of Mining Engineering
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OBJECTIVE: Seeking a position to utilize my skills and abilities in the teaching and research that offers security and professional growth while being resourceful, innovative and flexible.

AREA OF INTEREST

- Remote Sensing and GIS
- Machine Vision System
- Soft Computing
- Operation Research and its Application on Environmental Optimization
- Environmental Modeling using Soft Computing and Geostatistical Approach
- Air & Noise Pollution

SUBJECTS TAUGHT

Degree	Subjects
PG level	Air Pollution Monitoring & Control Technology
	Noise Pollution Monitoring & Control Technology
	Environmental System Optimization Techniques
UG level	Surface Mining Environment
	Mine Systems Engineering
	Land Surveying
	GIS and Remote Sensing Applications in Mines
	Mine Surveying

ACADEMIC/ PROFESSIONAL QUALIFICATION

Degree	Institution conferring the degree	Class	Field(s)	Year
B. E.	IIEST Shibpore	First	Mining Engineering	2000
M. E.	IIEST Shibpore	First	Mining Engineering	2002
Ph. D.	IIT (ISM), Dhanbad	NA	Env. Sc. & Engg.	2007
MBA	IGNOU	First	Operations Management	2012

DETAILS OF PROFESSIONAL CAREER

Institution	Designation	Duration
UNSW, Sydney	Endeavour Executive Fellow	15 May 2018 - 16 July 2018
NIT Rourkela	Assistant/Associate Professor	23 December 2014 to Continue
Trent Lott Geospatial and Visualization Research Centre, JSU, USA	Raman Postdoc Fellow	01 September 2013 – 31 August 2014
BIT, Mesra Ranchi	Assistant Professor	10 September 2007- 22 December 2014
BIT, Sindri	Visiting Faculty	01 November 2005 –30 September. 2007
ISM, Dhanbad	JRF	01 November 2002 -30 October 2005
CMRI, Dhanbad	Project Fellow	01 July 2002 – 30 October 2002

LIST OF PAPER PUBLICATIONS:

International Journal:

1. Patra, A.K., **Gorai, A.K.,** Rengde, V.R., Sharma, Y. (2020). GIS-based exposure assessment and characterization of particulate matter in a mining region in India. Environment, Development and Sustainability, 1-16. https://doi.org/10.1007/s10668-020-01037-w. (IF: 2.19)-**Q2**
2. **Gorai, A.K.,** Raval, S., Patel, A.K., Chatterjee, S., Gautam, T. (2020). Design and development of a machine vision system using artificial neural network-based algorithm for automated coal characterization. International Journal of Coal Science & Technology, 1-19. https://doi.org/10.1007/s40789-020-00370-9. **Q1**
3. Ranjan, A.K., Patra, A.K., **Gorai, A. K.** (2020). A Review on Estimation of Particulate Matter from Satellite-based Aerosol Optical Depth: Data, Methods, and Challenges. ***Asia-Pacific Journal of Atmospheric Environment.*** https://doi.org/10.1007/s13143-020-00215-0 (IF: 1.83)-**Q2**
4. Ranjan, A.K., Patra, A.K., **Gorai, A. K.** (2020). Effect of lockdown due to SARS COVID-19 on aerosol optical depth (AOD) over urban and mining regions in India. ***Science of the Total Environment***. https://doi.org/10.1016/j.scitotenv.2020.141024. (IF: 6.55)-**Q1**
5. Ranjan, A.K., Sahoo, D., Gorai, A. K. (2020). Quantitative assessment of landscape transformation due to coal mining activity using earth observation satellite data in Jharsuguda coal mining region, Odisha, India. ***Environment, Development and Sustainability***, 1-16. https://doi.org/10.1007/s10668-020-00784-0. (IF: 2.19)-**Q2**
6. Mishra, G., **Gorai, A. K.** (2020). Horizontal and Vertical Profiling of Soil Organic Carbon Stock in Nagaland State, India. ***Current Science***, 149(1), 1-9. (IF: 0.7)
7. Biswal, S. S., **Gorai, A. K.** (2020). Change detection analysis in coverage area of coal fire from 2009 to 2019 in Jharia Coalfield using remote sensing data. ***International Journal of Remote Sensing***, https://doi.org/10.1080/01431161.2020.1800128. (IF: 2.97)-**Q1**
8. Gorai, A. K., Raval, S., Patra, A.K. (2020). Path analysis approach to quantify the causal factors of ground-level ozone concentration near coal-mining regions. ***International Journal of Environmental Science and Technology,*** 17 (2), 645-660. https://doi.org/10.1007/s13762-019-02278-7. (IF: 2.54)- **Q2**
9. Shaw N., **Gorai A.K.** (**2020**). A comparative study of aerosol optical depth (AOD) observations using MODIS Terra and Aqua products over Indian Territory and its relation with Particulate Matter (PM) concentration. ***Environment, Development and Sustainability,*** **22**, 265–279. (IF: 2.19)-**Q2**
10. Gogikar, P., Tyagi, B., **Gorai, A. K.** (2019). Seasonal prediction of particulate matter over the steel city of India using neural network models. ***Modeling Earth Systems and Environment,*** 5 (1), 227-243.

11. Gorai, A. K., Tchounwou, P. B., Biswal, S. S., Tuluri, T. (2018). Spatio-temporal Variation of $PM_{2.5}$ Concentrations and its Health Impacts in a Mega City, Delhi in India**.** ***Environmental Health Insights*****, 12:1-9** ***doi:*** https://doi.org/10.1177/1178630218792861. **Q2**
12. Biswal, S. S., Raval, S., Gorai, A. K. (2019). Delineation and mapping of coal mine fire using remote sensing data – a review, ***International Journal of Remote Sensing***, 40(17): 6499-6529. DOI: https://doi.org/10.1080/01431161.2018.1547455. (IF: 2.97)-**Q1**
13. Bhanu, C. B., Gorai, A. K. (2019) Sensitivity analysis of fuzzy-analytic hierarchical process (FAHP) decision-making model in selection of underground metal mining method, ***Journal of Sustainable Mining***, 18(1): 8-17. doi: https://doi.org/10.1016/j.jsm.2018.10.003 **Q2**
14. Bhanu, C. B., **Gorai, A. K.** (2019). A Comparative Study of Various Multi-Criteria Decision Making Models in Underground Mining Method Selection, ***Journal of Institution of Engineers India***, Series D., **100**: 105–121**.** DOI: 10.1007/s40033-018-0169-0.**Q3**
15. Bhanu, C. B., Gorai, A. K. (Under review) Development of fuzzy pattern recognition model for underground metal mining method selection, ***International Journal of Management and Decision Making, Inderscience***
16. Bhanu, C. B., Gorai, A. K. (2018) Design of a multi-criteria decision making (MCDM) technique using fuzzy-AHP for selection of underground metal mining method, ***International Journal of Mining and Mineral Engineering, 9(4):*** 259–301.**Q2**
17. Patel, A.K., Chatterjee, S., **Gorai, A. K.** (2019). Effect on performance of a support vector machine (SVM)-based machine vision system with dry and wet ore sample images in classification and grade prediction. ***Pattern Recognition and Image Analysis***, **29(1): 114–129. *DOI:*** 10.1134/S1054661819010097.**Q3**
18. Patel, A.K., Chatterjee, S., **Gorai, A. K.** (2019). Development of online machine vision system using support vector regression (SVR) algorithm with optimised feature set for prediction of iron ore grades. ***Earth Science Informatics***, 2: Springer. DOI: https://doi.org/10.1007/s12145-018-0370-6. (IF: 1.45)-**Q2**
19. Patel, A.K., Chatterjee, S., **Gorai, A. K.** (2018). Development of an expert system for iron ore classification. ***Arabian Journal of Geosciences***, 11 (15), 401. https://doi.org/10.1007/s12517-018-3733-x. (IF: 1.32)-**Q2**
20. **Gorai, A. K.,** Kumar, P., Patel, A.K. (2017). Reliability Analysis of the Main Conveyor System in Underground Coal Mine to Determine the Maintenance Schedules. ***International Journal of Mining and Mineral Engineering,*** 8(3): 207 – 233. **Q2**
21. **Gorai, A.K.**, Biswal, S.S., Mitra, G. (**2017**). Effects of meteorology on ground-level ozone (GLO) concentrations and identifying the hot spots having significantly higher GLO concentration in a semi-urban area. ***Environmental Development and Sustainability***. DOI 10.1007/s10668-017-9947-3. (IF: 2.19)-**Q2**
22. **Gorai, A.K.**, Tchounwou, P.B., Mitra, G. (**2017**). Spatial Variation of Ground Level Ozone Concentrations and its Health Impacts in an Urban Area in India. ***Aerosol & Air Quality Research***. 17: 951–964. doi: 10.4209/aaqr.2016.08.0374. (IF: 2.73)-**Q1**
23. Patel, A.K., Chatterjee, S., **Gorai, A. K.** (**2017**). Development of machine vision-based ore classification model using support vector machine (SVM) algorithm. ***Arabian Journal of Geosciences***, 10:107. DOI 10.1007/s12517-017-2909-0. (IF: 1.32)-**Q2**
24. **Gorai, A.K.**, Mitra, G. **(2016**). A comparative study of the feed forward back propagation (FFBP) and layer recurrent (LR) neural network model for forecasting ground level ozone concentration. **Air Quality, Atmosphere & Health**. 10(2): 213-223. DOI: 10.1007/s11869-016-0417-0. (IF: 2.87)-**Q1**
25. **Gorai, A. K**., Tuluri, F., Tchounwou, P.B. (**2016**). Association between of ambient air pollution and asthma prevalence in different population groups residing in eastern Texas. ***International Journal of Environmental Research and Public Health,*** *13,* 378**.** *Doi:10.3390/ijerph13040378*. (IF: 2.849)-**Q2**
26. Kanchan, **Gorai, A. K.,** Goyal, P. **(2016)**. Development of ANFIS model for air quality forecasting and input optimization for reducing the computational cost and time. ***Atmospheric Environment***, 128: 246-262. doi:10.1016/j.atmosenv.2016.01.007. (IF: 4.03)-**Q1**
27. **Gorai, A. K**., Jain K. G., Shaw N., Tuluri, F., Tchounwou, P.B. **(2015**). Kriging Analysis for spatio-temporal Variations of Ground Level Ozone concentration. ***Asian Journal of Atmospheric Environment***, 9(4): 247-258. doi: http://dx.doi.org/10.5572/ajae.2015.9.4.247.**Q3**
28. **Gorai, A. K.,** Tuluri, F., Upadhyay, A., Kanchan, Goyal, P., Tchounwou, P. B. (**2015**). An Innovative Approach for Determination of Air Quality Health Index, ***Science of the Total Environment***, 533:495-505. doi: 10.1016/j.scitotenv.2015.06.133. (IF: 6.55)-**Q1**

29. **Gorai, A. K**., Tuluri, F., Tchounwou, P.B. (**2015**). Development of PLS- Path Model for Understanding the Precursors of Ground Level Ozone Concentration in Gulfport, Mississippi Area. ***Atmospheric Pollution Research***, 6(3): *389-397* doi: 10.5094/APR.2015.043. (IF: 3.52)-**Q2**
30. Tuluri, F., and Gorai, A. K. (**2015**). Hotspot Analysis for Examining the Association between Spatial Air Pollutants and Asthma in New York State, USA using Kernel Density Estimation (KDE). ***Journal of the Mississippi Academy of Sciences***, 60 (S1): 220-227.
31. Kanchan, **Gorai, A. K.,** Goyal, P. (**2015**). Air Quality Indices: A Literature Review, ***Asian Journal of Atmospheric Environment***. 9(2): 101-113. **Q3**
32. **Gorai, A. K.,** Tuluri, F., Shaw N., Jain K. G., Tchounwou, P. B. (**2015**). Study of Quarterly/Seasonal Association between Air Pollution Exposure and Asthma in Eastern Part of Texas, USA Using Geospatial Approach. ***Aerosol & Air Quality Research. 15: 1525–1544***. (IF: 2.73)- **Q1**
33. **Gorai, A. K.,** Tuluri, F., Tchounwou, P. B., Ambinakudige, S. (**2015**). Influence of local meteorology and NO_2 conditions on ground level ozone concentration in eastern part of Texas, USA, ***Air Quality, Atmosphere and Health***, 8:81-96. doi:10.1007/s11869-014-0276-5. (IF: 2.87)-**Q1**
34. **Gorai, A. K.,** Tuluri, F., Tchounwou, P. B. (2014) A GIS Based Approach for Assessing the Association between Air Pollution and Asthma in New York State, USA. ***International Journal of Environmental Research and Public Health***, 11, 4845-4869; doi:10.3390/ijerph110504845. (IF: 2.849)-**Q2**
35. **Gorai, A. K.**, Kanchan, Upadhyay, A., Goyal, P. (2014). Development of fuzzy synthetic evaluation coupled AHP model for air quality assessment in Taj trapezium Zone, Uttar Pradesh, India, ***Environment System and Decisions***, 34(2). DOI 10.1007/s10669-014-9505-6.**Q2**
36. Upadhyay, A., Kanchan, Goyal, P., Yerramilli, A., **Gorai, A. K.** (2014). Development of fuzzy pattern recognition model for air quality assessment of Howrah City. ***Aerosol & Air Quality Research***. 14: 1639–1652. doi: 10.4209/aaqr.2013.04.0118. (IF: 2.73)- **Q1**
37. Iqbal, J., Gorai, A.K., Katpatal, Y. B., Pathak, G. (2014). Development of GIS based Fuzzy Pattern Recognition Model (Modified Version of DRASTIC Model) for Groundwater Vulnerability to Pollution Assessment, ***International Journal of Environmental Science & Technology***, 12:3161–3174. DOI 10.1007/s13762-014-0693-x. (IF: 2.54)-**Q2**
38. Iqbal, J., & **Gorai, A. K**. (2014). Development of Hierarchical Fuzzy Model for Groundwater Vulnerability to Pollution Assessment, ***Arabian Journal of Geosciences***, Springer. DOI 10.1007/s12517-014-1417-8. . (IF: 1.32)-**Q2**
39. **Gorai, A. K** & Hasni, S. A. (**2014**). Prediction of ground water quality index to assess suitability for drinking purposes using soft computing approach. ***Applied Water Science***, Springer. DOI 10.1007/s13201-014-0241-3.
40. Krishna R., Iqbal J., **Gorai, A. K.**, Tuluri F., Tchounwou P.B. (2014). Groundwater Vulnerability to Pollution Mapping of Ranchi District using GIS. Applied Water Science, Springer. DOI 10.1007/s13201-014-0198-2.
41. **Gorai, A.K**., and Kumar, S. (2013). Assessment of Groundwater Quality using Statistical and Geostatistical techniques in Ranchi Municipal Corporation Area, Jharkhand, India, Geoinformatics and Geostatistics: An Overview, 1(2), *doi:http://dx.doi.org/10.4172/2327-4581.1000105*
42. **Tirkey, P., Gorai, A. K., and** Jawed, I. (2013). AHP-GIS based DRASTIC Model for Groundwater Vulnerability to Pollution Assessment: A Case study of Hazaribag District, Jharkhand, India. ***International Journal of Environmental Protection***, 2(3): 20-31.
43. Rajeev, S., **Goral, A. K.,** and Segaran, R.G. (2013). Characterization of LD Slag of Bokaro Steel Plant and its Feasibility Study of Manufacturing Commercial 'Fly Ash - LD Slag' Bricks, ***International Journal of Environmental Technology and Management***, Vol. 16., No. ½, pp.129-145. **Q4**
44. Mandal, T., **Gorai, A.** K., & Pathak, G. (2012). Development of Air Quality Index using soft Computing Approach, ***Environmental Monitoring Assessment***, 184:6187–6196. DOI 10.1007/s10661-011-2412-0). (IF: 1.90)-**Q2**
45. **Gorai, A.** K. (2012). Fuzzy Pattern Recognition for Air Quality Assessment, ***International Journal of Environmental Protection***, Vol. 2, pp.27-30.
46. **Gorai, A. K.,** and Jawed, I. (2012). Approaches to Ground Water Vulnerability to Pollution: A Literature Review, ***Asian Journal of Water, Environment and Pollution***, 9(1):105-115. **Q3**

47. **Gorai, A. K. (2010).** Application of Fuzzy Expert System to Determine the Degree of Sustainable Development of Mineral Resources, ***Asian Journal of Water, Environment and Pollution***, 7(2): 15-21. **Q3**

48. **Gorai, A. K.,** and Pal, A. K (2009). Methodology of the Community Noise Environmental Quality Assessment: A Case Study of Indian Iron Ore Mining Complex, ***Journal of Geology and Mining Research***, 1(10): 214-223.

49. **Gorai, A. K.,** Pal, A. K & Maity, S. (2007). Development of the Traffic Noise Prediction Model, ***Asian Journal of Water, Environment and Pollution***, 4(2): 65-74. **Q3**

50. **Gorai, A. K,** Maity, S.**,** Pal, A. K. (2007). Development of the Path Model in Road Traffic Noise Annoyance of Dhanbad Township, ***Noise & Vibration Worldwide***, 38(3):17-22.**Q3**

51. **Gorai, A. K.,** Siddiqui, T. J. (2007). Combined effect of noise and illumination on workers performance, ***Noise Control Engineering Journal***, 55(4): 417-424. (IF: 0.44) –**Q3**

52. **Gorai, A. K.,** Pal, A. K. (2006). Noise Impact Assessment of an Iron Ore Mining Residential Complex, ***Noise Control Engineering Journal***, 54(6): 352-359. (IF: 0.44)-**Q3**

53. Maity, S., **Gorai, A. K.,** Pal, A. K. (2006). Determination of Path Coefficients and its application in Road Traffic Noise Annoyance –A Theoretical Approach, ***Environmental Monitoring and Assessment***, 117: 21-26. (IF: 1.9)-**Q2**

54. **Gorai, A. K**., Mukhopadhyay, A. K., Pal, A. K. (2006). Control of Noise Problems in the Bailadila Iron Ore Mine, India, ***Journal of Mining and Geology***, 42(2): 175-185.

55. **Gorai, A. K.,** Mukhopadhyay, A. K., Pal, A. K. & Dey, U. K. (2008). Design of Enclosure of a Grinding Machine for the Noise Attenuation, ***Journal of Environmental Science and Engineering***, Vol. 50(2), pp. 141-146.

56. **Gorai, A. K** & Paul, P. K. (2006). Selection of Dump Site in an Opencast Mine Using GIS – An Approach, ***The Indian Mining and Engineering Journal***, Vol. 45(02-04), pp. 36-39.

57. **Gorai, A. K.** & Pal, A. K. (2006). Noise and its Effect on human being – A Review, ***Journal of Environmental Science and Engineering***, Vol. 48(4), pp. 253-260.

58. **Gorai, A. K.,** Mukhopadhyay, A. K., and Pal, A. K. (2007). Noise problems in an iron ore mine and its control measures, ***MineTech***, Vol. 28(4), pp. 28-33.

Conferences/Symposium:

1. Gorai, A. K., Bhanu, C. B., Sameer, U. A deep learning approach for automated quality control of iron ores. Mining goes Digital: Proceedings of the 39th International Symposium'Application of Computers and Operations Research in the Mineral Industry. pp. 455-461, 2019.
2. Biswal, S. S., **Gorai, A. K.** Detection and Delineation of Subsurface Coal Mine Fire from Spaceborne Thermal Infrared Data In Jharia Coalfield, Dhanbad, India. International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences, XLII-3/W8, 2019, pp.65-69
3. Patel, A.K., Chatterjee, S., **Gorai, A. K.,** Development of Online Machine Vision System using Support Vector Regression (SVR) Algorithm for Grade Prediction of Iron Ores. The Fifteenth International Conference on Machine Vision Applications (MVA-2017), May 8-12, 2017. Nagoya University, Nagoya, Japan.
4. Patel, A.K., Chatterjee, S., **Gorai, A. K.,** Optimising the image features for development of machine vision system for classification of iron ores using support vector machine algorithm". National Conference on Sustainable Mining Practices, SMP-2016, December 2-3, 2016, NIT Rourkela, Odisha, India.
5. Patel, A.K., Chatterjee, S., **Gorai, A. K.,** 2016. Development of Machine Vision-based System for Iron Ore Grade Prediction using Gaussian Process Regression (GPR). Thirteenth International Conference on Pattern Recognition and Information Processing (PRIP'2016), October 3-5, 2016, Minsk, Belarus.
6. Patel, A.K., Chatterjee, S., **Gorai, A. K.,** Development of iron ore classification model using discriminant analysis of image based textural features". National conference on Recent Practices and Innovations in Mining Industry (RPIMI 2016), February 19-20, 2016, Raipur, Chhattisgarh, India
7. **Gorai, A. K.,** Tuluri, F., Tchounwou, P. B., Development of ANFIS Model with Optimised Inputs to Reduce the Computational Cost and Time for Ground Level Ozone Forecasting, 10th International Conference on Air Quality - Science and Application, 14-18th March, 2016, Milan, Italy**.**
8. **Gorai, A. K.,** Development of hierarchical fuzzy model for prediction of air quality index, 8th International Conference on Air Quality - Science and Application, 19-23 March, 2012, Athens.
9. **Gorai, A. K.,** Mitra, H., Ghosh, S., Mukhopadhya, A. K., and Pal, A. K, "Workplace Noise Status of Kotah Stone Mining Complex" Journal of the Institution of Public Health Engineers, India,

Special Issue on the Occasion of National Seminar on Environmental Engineering with Special Emphasis on Mining Environment.

10. **Gorai, A. K**., Mukhopadhya, A. K., and Pal, A. K, "Noise Emission Levels in an Iron Ore Mine and its Processing Plants", *Conference on Technological Advancements and Environmental Challenges in Mining and Allied Industries in the 21st Century*, TECMAC-2005, NIT, Rourkela, India.
11. Roul, A, **Gorai, A. K** and Pal, A. K. (2005). Workplace Noise Status of NALCO Bauxite Ore Processing Plant, I*nternational Conference on Mineral Processing Technology*, MPT 2005, ISM, Dhanbad, India.
12. **Gorai, A. K.,** Mukhopadhya, A. K., and Pal, A. K, Cost-Benefit Analysis of Noise Management Programme in Mining Industries, *International Symposium on Advances in Mining Technology and Management*, AIMM 2005, IIT Kharagpur, India.
13. **Gorai, A. K.,** & Dey, U. K., Development Methodology and Application of Expert System for EIA of Mining Projects, IMC, Feb., 2007, ISM, Dhanbad.
14. Pathak, G., Kirti, A. and **Gorai, A. K.,** Environmental and Societal Impacts of Coal Mining and Its Management Practices in India, First International Conference on Managing the Social and Environmental Consequences of Coal Mining in India, Nov. 19-21, 2007, New Delhi.
15. **Gorai, A. K.,** Singh, Hemant Kumar & Pathak, G., Development of Fuzzy Expert System to Predict the Hearing Loss of Mine Worker: An Approach, National Symposium on Disaster in Mines, 10 – 11th March. 2007, ISMU, Dhanbad, India.
16. **Gorai, A. K.,** Carbon Emission and Climate Change: A Comparative Study of Developed and Developing Nation, ICER-10, 16-18 September 2010, University of Mauritius.

LIST OF BOOKS/BOOK CHAPTERS PUBLICATION:

1. A Complete Guide for Mining Engineers' (ISBN: 978-81-7956-120-1) Published by Lovely Prakashan, Dhanbad.
2. Sustainable Mining Practices, Narosa Publisher, New Delhi (ISBN: 978-81-8487-604-8)

LIST OF PROJECTS SUPERVISED:

Sl. No.	Name of the Scholar	Title	Status
PhD			
1	Kanchan	Development of ANFIS model for air quality forecasting	Completed
2	Jawed Iqbal	Prediction of Groundwater Vulnerability to Pollution in Ranchi District using Fuzzy Technique	Completed
3	Ashok Kumar Patel	Development of an Online Vision Based Integrated Quality Monitoring Model for Mineral Industry	Completed
4	Bhanu C Balusa	Develoment of Fuzzy-AHP based multi-criteria decision making model for selection of underground metal mining method	Completed
5	Shanti Swarup Biswal	Delineation and Mapping of Coal Mine Fire using Spaceborne Data and Estimating the Greenhouse Gas Emissions	Ongoing
6	Avinash Kumar Ranjan	Analysing the effect of mining activity on socio-economic and environmental status of nearby population using GIS and remote sensing approach	Ongoing
M.Tech			
1	Tapas Mondal	Development of air quality index using soft computing approach	Completed

2	Rajeev Singh	Characterization of LD Slag at Bokaro Steel Plant and Its Feasibility Study of Manufacturing Commercial 'Fly Ash – LD Slag' Bricks	Completed
3	Poonam Tirkey	Assessment of Groundwater Vulnerability to Pollution of Hazaribag District using GIS	Completed
4	Kaustav Patnaik	Optimization of water utilization in a Steel industry	Completed
5	Subhash Kumar	Groundwater Quality Mapping using Geostatistical Approach for Ranchi Municipal Area.	Completed
6	Abhishek Kumar	Development of Air Quality Forecasting Model	Completed
7	Rahul Krishna	Assessment of Groundwater Vulnerability to Pollution of Ranchi District using GIS	Completed
8	Praveen Kumar	Development of Path Model for Understanding the Precursors of Surface Level Ozone Concentration	Completed
9	Neha Shaw	Air Quality Assessment using GIS and Remote Sensing Technique	Completed
10	Kumar Gaurav Jain	Geostatistical analysis for assessing the ground level ozone concentration in Ranchi city.	Completed
11	Pritam Kumar	Reliability, Availability and Maintainability Analysis of the Main Conveyor System in Underground Coal Mine: A Case Study of Churcha (RO) Mine	Completed
12	Satyabrata Behara	Estimation of Aerosol Optical Depth using MODIS satellite data and its relation with particulate matter concentration in the mining regions	Completed
13	Rahul Raj	Quantitative and qualitative assessment of surface water in the mining region using remote sensing and GIS-based approach	Completed

RESEARCH EXPERIENCE:

- Three year working experience in a research project "Investigation into Noise status in some selected non-coal mining complexes in India" at ISM, Dhanbad. (1st Nov. 02 to 30th Oct. 05).

  The objectives of the research work are
  - Assessment of noise status of the Bailadila Iron ore mining Complex.
  - Noise impact assessment
  - Development of noise profile through modeling
  - Development of suitable noise abatement and control measures.
- Development of optimization model for municipal solid waste management system (MBA thesis project)
- Selection of suitable dump site in an opencast coal mine using GIS in order to minimize the environmental impact. The main objective of the work was to identify the location of proper dump site with respect to the environmental impact in the nearby residence (Master degree level)

SEMINAR/ WORKSHOP/Invited Talks ORGANISED/Delivered:

- Three days workshop on "Water Quality and Conservation" at BIT Mesra, Ranchi as an Organizing Secretary.
- Invited talk at CIT Ranchi on Environmental Sustainability and Climate Change

- Invited talk at UGC academic staff college, Ranchi on Environmental Management.

VARIOUS SOFTWARE TRAINING ATTENDED

1. 7 Days Training on **SURPAC** (Mine Planning Software) at B.I.T. Sindri.
2. 3 Days Training on **MAXIPIT** (Pit Optimization Software) at B.I.T. Sindri
3. 2 Days Training on **PLAXIS** and **Visual-FEA** (Stress Analysis Software) at B.I.T. Sindri
4. 3 Days Training on **FLAC 3D** Software at B.I.T Sindri
5. Participated in 2 months EDUSAT training on GIS, GPS and Remote Sensing at BIT Mesra, Ranchi (19.09.2007 to 03-12-2007).
6. Participated in 1 Week training program on Engine Emission formation and Control at Department of Civil Engineering, IIT Kanpur (28th June-3rd July, 2011)
7. Participated in 1 Week training program on Climate Modeling at TERI New Delhi (01st - 05th Oct., 2012).
8. Participated in 2 days training program on Air Quality Management at IIT Bombay (06-07th Dec., 2012).

PERSONAL PROFILE:

Name	: Dr. Amit Kumar Gorai
Father's Name	: Sri Satya Narayan Gorai
Date of Birth	: 01.01.77
Nationality	: Indian

AWARDS/ RECOGNITION/ EXTENSION SERVICE/ EXAMINER SHIP / PATENTS

- GATE 2000 by MHRD Govt. of India
- Appointed as an external examiner for Viva-Voce & Question paper setting in NIFFT Hatia Ranchi
- Appointed as a question setter by NIT Jamshedpur
- Appointed as a reviewer in various international journal like Noise & Health (Published from UK), Journal of Environmental Monitoring, Malaysian Journal of Medical Sciences, Int. J. of Env. Res. and Public Health.
- Life Member of Indian Association of Air Pollution Control (Delhi Chapter).
- Member of Asia-Pacific Chemical, Biological & Environmental Engineering Society
- **Young Researchers Award** by World Meteorological Organization (WMO) in 8th International Conference on Air Quality - Science and Application, 19-23 March, 2012, Athens.
- **DST, SERB travel grant** for attending the International Conference on Air Quality-Science and Application- 2012) (19 to 23 March, 2012, at Athens, Greece)
- **DST, SERB travel grant** for attending the International Conference on Air Quality-Science and Application- 2016) (14 to 18 March, 2016 at Milan, Italy)
- **DST Young Scientist** award
- Member of the editorial board of International Journal of Environmental Protection
- **Raman Postdoctoral Fellowship** awarded by University Grant Commission under India-US Knowledge Initiative.
- **Endeavour Executive Fellowship** awarded by Department of Higher Education, Australian Government.

LANGUAGES KNOWN: English, Hindi & Bengali

R & D PROJECTS

1. **Title of the Project:** Prediction of Groundwater Vulnerability to Pollution in Ranchi District using Fuzzy Technique.
   Funding Agency: UGC (Status: Completed)
   Amount: Rs. 1 Lakh
   Role: PI

3. **Title of the Project:** Geostatistical Analysis and Mapping of Ground Level Ozone in an Urban Area in India: A Case Study of Ranchi City
   Funding Agency: SERB, DST under Fast track Young Scientist Scheme in Earth & Atmospheric Sciences
   Amount: 20.30 Lakhs (Status: Completed)
   Role: PI

4. **Title of the Project:** Estimation of Aerosol Optical Depth (AOD) from Satellite Remote Sensing Data over Coal Mining Regions in India and Development of Statistical Model for Prediction of Particulate Matter Concentration from AOD
   Submitted to CSIR, New Delhi
   Amount: 24.432 Lakhs (Status: Ongoing)
   Role: PI