

CURRICULUM VITAE – R.D. GARG

1. Name in Full **Rahul Dev Garg**

2. Address

Office

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Roorkee - 247667



3. Father's Name: **Sri Naresh Chandra Garg**

4. Date of Birth: **15.02.1969** 5. Place of Birth: **Rampur, U.P.**

6. Nationality: **Indian** 7. Marital Status: **Married** 8. Sex: **Male**

9. Present Position (Designation, Organisation)

Associate Professor, Geomatics Engg., Civil Engineering Department
Indian Institute of Technology (IIT), Roorkee – 247667

10. Areas of Specialisation

Geomatics

11. Current Areas of Research

Remote Sensing, DIP, GIS, WebGIS, Land Surveying, GPS,
Thermal, Microwave and Hyperspectral remote sensing,
Ground Penetrating Radar (GPR)

12. Academic Record (Commencing with High School)

Examination /Degree	Subjects/ Specialisation	Year	Division	Institution	Distinctions/ Scholarship
High School	Maths, Science	1983	I st	U.P. Board	State scholarship
Intermediate	Maths, Science	1985	I st	U.P. Board	National schol.
B.E.	Civil	1989	I st	University of Roorkee	Univ. Merit schol.
M.E.	Remote Sensing	1993	I st	University of Roorkee	GATE scholarship
Ph.D.	GIS and remote sensing	2004	-	IIT, Roorkee	ITC (Netherlands) fellowship

M.E. Dissertation Topic: **Soil Erosion studies in GIS environment**

Ph.D. Thesis Topic: **GIS Based Decision Support System for Identification of Route Corridors**

13. Teaching/ Professional/ Research Experience (in descending order)

Employer	Post held	Period of employment		Nature of Duties/Work
		From	To	
IIT Roorkee	Asstt./Asso. Prof.	8.5.2007	Till date	Research and Teaching
IIRS (ISRO)	Scientist/Engineer	27.12.1993	7.5.2007	Research and Teaching
CSIR Fellow at U.O.R.	Research Fellow	August 1992	24.12.1993	Research

14a. Teaching Experience

Post Graduate/ Under Graduate: 24 years 9 months

Short Term/ Special Course conducted: 32 (22 national, 10 international)

b. Publications: International/National Journals: 99 (+ 8 Book Chapters) Conferences: 102
Q1 Journals – 16 papers; Q2 – 20 papers; Q3 – 8 papers; Q4 – 4 papers
(Annexure – I)

c. Number of Ph.D. Thesis Supervised: 15+12 in progress (Annexure – II)

d. Number of M.Tech. Thesis Supervised: 47+4 in progress (Annexure – II)

e. Sponsored Research Projects: 15 {International: 5 (2 as PI)} (Annexure – III)

f. Membership of Professional Associations:

- i) Fellow of Institution of Engineers (India)
- ii) Fellow of Indian Water Resources Society (IWRS)
- iii) Life member of Indian Association of Hydrologists (IAH)
- iv) Life member of Indian Society of Remote Sensing (ISRS)
- v) Life member of Indian National Cartographic Association (INCA)
- vi) Life member of Indian Society of Geomatics (ISG)
- vii) Life member of Regional Science Association, India
- viii) Life member of Indian Society for Construction Materials and Structures (ISCMS)
- ix) Member of Institute of Landscape Ecology and Ekistics, India
- x) Senior member of International Association of Computer Science and Information Technology (IACSIT)
- xi) Member of International Scientific Academy of Engineering & Technology (ISAET)
- xii) Senior member of Universal Association of Computer and Electronics Engineers (UACEE)
- xiii) Senior Member of Institute of Research Engineers and Doctors (IREDD)

g. Prizes/ Awards/ Significant achievements

1. Received '**Uttarakhand Eminent Engineers Award 2018**' by Institution of Engineers (India), Uttarakhand State Chapter.
2. Associate Editor of 'Journal of Indian Society of Remote Sensing', 45 years old prestigious publication by Springer.
3. Member of the National Committee constituted by 'Ministry of Housing and Urban Affairs, Govt. of India' for 'Framing Design and Standards for application of Drone/UAV Technology in formulation of GIS based Master Plans'.
4. Received '**Excellence Award 2017**' by Institution of Engineers (India), RLC.
5. Received '**Outstanding Teacher Award 2012**' for quality teaching and research by IIT Roorkee.
6. Got All India 12th Rank in Indian Citation Index, published by Confederation of Indian Industry (CII) based on publications by IIMs, IITs, NITs and other institutions.
7. Received '**Top Paper Award**' at Sensitizing Youth to Flagship Programs of Government (SYPOG) for research paper 'Geomatics and Software Tool to Assess Solar Potential of Unnat Bharat Abhiyan (UBA) Village' at 3rd India International Science Festival (IISF-2017), Chennai, 13-16 October, 2017 (with M. Kapoor).
8. Received '**Best Paper Award**' for research paper 'Estimation of rainfall variability from TRMM satellite data over upper Ganga river basin, Uttarakhand, India' at 9th Uttarakhand State

Science and Technology Congress 2014-15, February 26-28, 2015 (with A.K. Shukla and C.S.P. Ojha).

9. Received '**Best Paper Award**' for research paper 'Land Surface Temperature retrieval from Landsat and MODIS data and its resolution sharpening procedure over mixed agricultural region of India' at National Seminar on Remote Sensing & Environment, Jadavpur University, Kolkata, March 20-22, 2014 (with S. Mukherjee and P.K. Joshi).
10. Received '**Best Paper Award**' for research paper 'Disaster Recovery Planning – The Indian Touch' at 2nd International Conference on System Modelling and Advancement in Research Trends (SMART), TMU, Moradabad, November 15-16, 2013 (with P. Kumar and R. Kanji).
11. Received '**Best Paper Award**' for research paper 'GPR based detection of structurally weak zones of road pavement' at International Conference on Traffic and Transportation Engineering (ICTTE-2012), sponsored by IACSIT (International Association of Computer Science and Information Technology), Hong Kong, February 17-18, 2012.
12. Received '**Best Poster Award**' for research paper 'Modeling the movement of females tested positive for HIV using geospatial analysis' at third International Conference on Health GIS, July 24-26 2009, Hyderabad. (with R. Kandwal *et al.*)
13. Received '**ISRS SPECK Award-2003**' for research paper 'Transport Route Planning using advanced mathematical algorithms in RS-GIS environment' at ISRS Symposium on Resource Management with special reference to Geoinformatics and Decentralised Planning, Thiruvananthapuram, December 9-12, 2003.
14. Awarded 15 months Sandwich Ph.D. fellowship by The Netherlands Government to pursue Ph.D. research work at ITC (Faculty of Geo-Information Science and Earth Observation), University of Twente, The Netherlands.

I hereby declare that all the above entries are true to the best of my knowledge and belief.

Date October 10, 2018
Place Roorkee

(Rahul Dev Garg)

Research Publications

**Refereed Journal Papers [=99]. Google Citation: 643; h-index: 12; i-10 index: 13
h-index: 9 on 'Clarivate Analytics'**

Have good number of papers in high ranking International Journals, as per **Scimago Journal Rank – SJR** (<https://www.scimagojr.com/journalrank.php>)

Q1 Journals – 16 papers; Q2 – 20 papers; Q3 – 8 papers; Q4 – 4 papers

1. Garg, R.D., Garg, P.K. and Govil, S.K. (2005). Generation of Decision Rules for Route Alignment using Saaty's Pairwise Comparison. ITPI Journal, Vol. 2, No. 3, July - September 2005.
2. Mondal, M.S. and Garg, R.D. (2007). Urban Utility Facility Mapping and Assessment of Wardwise Infrastructure Development of Rishikesh – A Geoinformatics Approach. Indian Journal of Regional Science, Kolkata, Vol. 39, No. 1.
3. Garg, R.D., Agarwal, S. and Dadhwal, V.K. (2008). Evaluation of Approaches for AWiFS Multi-date Registration. International Journal of Applied Earth Observation and Geoinformation (JAG), Elsevier, Vol. 10, Issue 2, pp. 175–180. **(Impact Factor: 4.003; 5-year Impact Factor: 4.433). Q1**
4. Mondal, M.S., Pandey, A.C. and Garg, R.D. (2008). Groundwater Prospects Evaluation based on Hydrogeomorphological Mapping using High Resolution Satellite Images: A Case study in Uttarakhand. Journal of Indian Society of Remote Sensing, Springer, Vol. 36, No. 1, pp. 69–76. **(Impact factor 0.810; 5-year Impact Factor: 0.869). Q2**
5. Nayak, A., Sharma, N. and Garg, R.D. (2009). Remote Sensing based evaluation of Channel instability in Ganga river inhibiting inland navigation. Journal of Indian Water Resources Society, Vol. 29, No. 2, pp. 32-39.
6. Kandwal, R., Garg, P.K. and Garg, R.D. (2009). Health GIS and HIV/AIDS studies: Perspective and Retrospective. Journal of Biomedical Informatics, 42, 748-755. **(Impact factor 2.753; 5-year Impact Factor: 3.233). Q1**
7. Mondal, M.S., Sharma, N., Garg, P.K., Böhm, Bettina, Flügel, Wolfgang-Albert and Garg, R.D. (2009). Water area extraction using geocoded high resolution imagery of TerraSAR-X radar satellite in cloud prone Brahmaputra river valley. Journal of Geomatics, Vol. 3, No. 1, April 2009
8. Garg, P.K., Ghosh, S.K., Garg, R.D. and Agarwal, R. (2010). Development of a bridge and culvert information system in GIS. Indian Surveyor, Vol. 64, No. 1, pp. 65-71.
9. Agarwal, E., Agarwal R., Garg, P.K. and Garg, R.D. (2010). Groundwater status of Unnao district, Uttar Pradesh using Remote Sensing and GIS. Journal of Current Science, Vol. 15, No. 2, pp. 335-344.
10. Kandwal, R., Augustijn, E.W., Stein, A., Miscione, G., Garg, P.K., Garg, R.D. (2010). Geospatial analysis of HIV-Related social stigma: A study of tested females across mandals of Andhra Pradesh in India, International Journal of Health Geographics, 9(18). **(Impact factor 3.282). Q1**
11. Kumar, V. and Garg, R.D. (2010). Evaluation of spectral characteristics of urban land use using hyperspectral data. Journal of Water and Land Use Management, Vol. 10, No. 1&2, pp. 86-96.
12. Pande, H., Sen, A.K. and Garg, R.D. (2011). Identification of open cast mining areas using Cartosat-1: A case study of Jharia coal fields. Asian Journal of Earth Science, Vol. 4, No. 1, pp. 29-37. **Q4**
13. Tiwari, P.S., Sen, A.K. and Garg, R.D. (2011). Application of DPCA technique in Khetri copper belt, India for Alteration zones. Asian Journal of Earth Science, Vol. 4, No. 1, pp. 54-59. **Q4**
14. Mondal, M.S. and Garg, R.D. (2011). Land use/ land cover mapping of urban areas using high resolution satellite data applying geoinformation techniques. Indian Journal of Regional Science, Vol. 43, No. 1, pp. 49-54.

15. Garg, R.D. and Joshi, R. (2011). A new Image Fusion algorithm based on two dimensional Empirical Mode Decomposition. *Journal of Geomatics*, Vol. 5, No. 1, pp. 11-16.
16. Mondal, M.S., Garg, R.D. and Garg, P.K. (2011). Site Suitability analysis of Future Development for a new Township using Remote Sensing and GIS techniques. *Journal of Geomatics*, Vol. 5, No. 1, pp. 37-42.
17. Kumar P., Garg, R.D., Durai, R.D. and Subrahmanyam, A.S. (2011). Upgradation Planning of Rural Roads using GIS and GPS. *Indian Highways*, pp. 33-45.
18. Kumar, S., Garg, R.D. and Agarwal, S. (2011). Endmember extraction in Hyperion Data. *International Journal of Earth Science and Engineering*, Vol. 4, No. 3 SPL, pp. 1-6. **Q4**
19. Bhakar, R. and Garg, R.D. (2011). Extraction of irrigation network details from medium resolution satellite imagery: A comparative assessment of LISS-III and ASTER data products. *International Journal of Earth Science and Engineering*, Vol. 4, No. 3 SPL, pp. 46-53. **Q4**
20. Mukherjee, Sandeep, Garg, R.D. and Mukherjee, Samadrita (2011). Effect of systematic error on DEM and its derived attributes: A case study on Dehradun area using Cartosat-1 stereo data. *Indian Journal of Landscape System and Ecological studies*, Vol. 34, No. 1, pp. 45-58.
21. Bala, D.C., Jain, S.S. and Garg, R.D. (2011). Rebar Detection Using GPR: An Emerging Non Destructive QC approach. *International Journal of Engineering Research and Applications (IJERA)*, Vol. 1, Issue 4, pp. 2111-2117.
22. Agarwal R., Garg, R.D. and Garg, P.K. (2011). Morphometric Analysis and Prioritization of Sub-watersheds in the Loni Watershed, Uttar Pradesh Using Spatial Information Technology. *Journal of Indian Water Resources Society*, Vol. 31, No. 3-4, pp. 19-27.
23. Thakur, P.K., Garg, R.D. and Garg, P.K. (2011). Snow wetness and density estimation using space based synthetic aperture radar data. *i-manager's Journal on Civil Engineering (JCE)*, Vol. 2, No. 1, pp. 10-20.
24. Aeron, A., Garg, R.D., Arya, D.S. and Aggarwal, S.P. (2011). Advancements in flood risk mapping systems: A brief review. *i-manager's Journal on Civil Engineering (JCE)*, Vol. 2, No. 1, pp. 40-49.
25. Garg, R.D. and Sharifikia, M. (2011). Morphological feature extraction in a part of Garhwal Himalayas using Interferometric SAR. *Journal of Water and land Use Management*, Vol. 11, No. 1 and 2, pp. 82-91.
26. Kandwal, R., Garg, P.K. and Garg, R.D. (2012). Correlation of HIV/AIDS prevalence with social, economic and demographic measures in Andhra Pradesh, India. *International Journal of STD and AIDS*, Vol. 23, No. 9, pp. 16-26. DOI: 10.1258/ijsa.2009.009016 (**Impact factor 1.350**). **Q2**
27. Sarkar, A., Garg, R.D. and Sharma, N. (2012). RS-GIS based assessment of river dynamics of Brahmaputra river in India. *Journal of Water Resource and Protection (JWARP)*, Vol. 4, No. 2, pp. 63-72.
28. Joshi, R. and Garg, R.D. (2012). Pre-processing of TerraSAR-X Data for Speckle Removal: An Approach for Performance Evaluation. *Journal of Indian Society of Remote Sensing*, Springer Publication, Vol. 40, No. 3, pp. 371-377. (**Impact factor 0.810**). **Q2**
29. Kumar, V. and Garg, R.D. (2012). Comparison of Different Mapping Techniques for classifying Hyperspectral Data. *Journal of Indian Society of Remote Sensing*, Springer Publication, Vol. 40, No. 3, pp. 411-420. (**Impact factor 0.810**). **Q2**
30. Bhakar, R., Srivastav, S.K., Garg, R.D. and Jetten, V.G. (2012). Upscaling soil-hydrologic parameters in sandy desert landscape – an input for distributed hydrological modeling. *Asian Journal of Geoinformatics*, Vol. 12, No. 1.
31. Sharma, N., Janauer, G., Mondal, M.S., Bakimchandra, O. and Garg, R.D. (2012). Assessing wetland landscape dynamics in the DeeporBeel of Brahmaputra basin using geospatial tools. *Asian Journal of Geoinformatics*, Vol. 12, No. 1.

32. Agarwal R., Agarwal E., Garg, R.D. and Garg, P.K. (2012). A GIS based study of water pollutants, characteristics and their affects in Hilauli block, India. *i-manager's Journal on Civil Engineering (JCE)*, Vol. 2, No. 2, pp. 11-16.
33. Bala, D.C., Jain, S.S. and Garg, R.D. (2012). Practical way to identify the false target signatures in GPR images of ground profile. *i-manager's Journal on Civil Engineering (JCE)*, Vol. 2, No. 2, pp. 28-36.
34. Thakur, P.K., Aggarwal, S.P., Garg, P.K., Garg, R.D., Snehmani, Pandit, A. and Kumar, S. (2012). Snow physical parameter estimation using space based SAR. *Geocarto International*, Vol. 27, No. 3, pp. 263-288. **(Impact factor 1.759). Q2**
35. Parida, M., Garg, R.D. and Ranjan, A. (2012). Development of GIS based traffic noise map for Roorkee city. *ITPI Journal*, Vol. 9, No. 4, pp. 59-73.
36. Bala, D.C., Jain, S.S. and Garg, R.D. (2012). Variability issues of road & its subsurface addressed by ground coupled GPR. *International Journal of Civil Engineering & Technology (IJCIET)*, Vol. 3, Issue 2, pp. 84-93. **Q3**
37. Kumar, A., Sharma, A., Yadav, V., Garg, P.K. and Garg, R.D. (2012). 3D Virtual Environment for Learning GPS System, *International Journal of Engineering and Science Research*, Special Issue No. 8, pp. 39-42.
38. Srivastav, V., Garg, P.K. and Garg, R.D. (2012). An approach for semi-automatic extraction of individual tree canopies from high resolution satellite images. *Journal of Water and Land Use Management*, Vol. 12, No. 1&2, pp. 31-37.
39. Mukherjee, Sandeep, Joshi, P.K., Mukherjee, Samadrita, Ghosh, A., Garg, R.D. and Mukhopadhyay, A. (2013). Evaluation of vertical accuracy of open source Digital Elevation Model (DEM). *International Journal of Applied Earth Observation and Geoinformation*, 21, pp. 205–217. **(Impact factor 4.003; 5-year Impact Factor: 4.433). Q1**
40. Agarwal, R., Garg, P.K. and Garg, R.D. (2013). Remote Sensing and GIS Based Approach for Identification of Artificial Recharge Sites. *Water Resource Management*, Vol. 27, No. 7, pp. 2671-2689. **(Impact factor 2.848). Q1**
41. Ghosh, A., Joshi, P.K., Garg, R.D. and Mukherjee, S. (2013). Identification of invasive plant species using field spectro-radiometer and simulated Hyperion spectra - a rapid mapping of invasiveness. *Current Science*, Vol. 104, No. 9, pp. 1148-1151. **(Impact factor 0.843). Q2**
42. Mukherjee, Samadrita, Mukherjee, Sandeep, Garg, R.D., Bhardwaj, A. and Raju, P.L.N. (2013). Evaluation of topographic index in relation to terrain roughness and DEM grid spacing. *Journal of Earth System Science*, Springer Publication, Vol. 122, No. 3, pp. 869–886. **(Impact factor 0.955). Q2**
43. Agarwal, E., Agarwal, R., Garg, R.D. and Garg, P.K. (2013). Delineation of Groundwater Potential Zone: An AHP/ANP Approach. *Journal of Earth System Science*, Springer Publication, Vol. 122, No. 3, pp. 887–898. **(Impact factor 0.955). Q2**
44. Gangwal, N., Kumar, A., Sharma, A., Yadav, V., Garg, P.K., Ghosh, S.K. and Garg, R.D. (2013). 3D Virtual Lab Using Multimedia Techniques for Advanced Learning. *International Journal of Computer Science and its Applications*, Vol. 2, No. 3, pp. 286-289.
45. Mukhopadhyay, A., Mukherjee, S., Garg, R.D. and Ghosh, T. (2013). Spatio-temporal analysis of land use - land cover changes in Delhi using remote sensing and GIS techniques. *International Journal of Geomatics and Geosciences*, Vol. 4, Issue 1, pp. 213-223.
46. Singh, P.P. and Garg, R.D. (2013). A hybrid approach for information extraction from high resolution satellite imagery. *International Journal of Image and Graphics*, World Scientific Publishing, Vol. 13, No. 2, pp. 1340007:1-16.
47. Thakur, P.K., Garg, P.K., Aggarwal, S.P., Garg, R.D. and Snehmani (2013). Snow Cover Area Mapping Using Synthetic Aperture Radar in Manali watershed of Beas River in the Northwest

- Himalayas. Journal of the Indian Society of Remote Sensing, Springer Publication, Vol. 41, No. 4, pp. 933–945. **(Impact factor 0.810). Q2**
48. Garg, R.D. and Sarat Chandra, M.D. (2013). Material of interest based sub pixel classification of remote sensing images. Journal of Geomatics, vol. 7, no. 2, pp. 120-125.
 49. Singh, P.P. and Garg, R.D. (2013). Automatic road extraction from high resolution satellite image using adaptive global thresholding and morphological operations. Journal of Indian Society of Remote Sensing, Springer Publication, Vol. 41, No. 3, pp. 631-640. **(Impact factor 0.810; 5-year Impact Factor: 0.869). Q2**
 50. Kumar, P., Garg, R.D. and Kanji, R. (2013). Disaster recovery planning – the Indian touch. International Journal of Trends in Computer Science (IJTICS), Vol. 2, No. 11, pp. 291-302.
 51. Chauhan, I., Brenner, C., Garg, R.D. and Parida, M. (2014). A new approach to 3D dense LiDAR data classification in urban environment. Journal of Indian Society of Remote Sensing, Springer Publication, Vol. 42, No. 3, pp. 673-678. **(Impact factor 0.810; 5-year Impact Factor: 0.869). Q2**
 52. Mukherjee, S., Joshi, P.K. and Garg, R.D. (2014). A comparison of different regression models for downscaling Landsat and MODIS land surface temperature images over heterogeneous landscape. Advances in Space Research, Elsevier, Vol. 54, pp. 655-669. **(Impact factor 1.401). Q3**
 53. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2014). Trends and Variability Assessment of Rainfall and Temperature in Upper Ganga River Basin, Uttarakhand, India. Journal of Indian Cartographer Vol. 34, pp. 34-53.
 54. Singh, H., Saran, S. and Garg, R.D. (2014). Performance Evaluation and Comparative Analysis of Freely available Spatial Database Management System for Mobile GIS Based Application. International Journal of Remote Sensing and GIS, Vol. 3, Issue 4, pp. 72-80.
 55. Khandar, V.M. and Garg, R.D. (2014). Heat Island analysis of Nagpur and surrounding area using Geomatics Techniques. International Journal of Engineering Research & Technology, Vol. 3, Issue 6, pp. 1929-1933.
 56. Tiwari, P.S., Garg, R.D., Sen, A.K. and Dadhwal, V.K. (2014). Spectral delineation of albite zone using ASTER data in Khetri Copper Belt. Arabian Journal of Geosciences, Springer Publication, Vol. 7, No. 10, pp. 4163-4173. **(Impact factor 0.955). Q3**
 57. Suresh, K., Chitranshi, U.B. and Garg, R.D. (2014). Ground water quality analysis and mapping using GIS techniques. International Journal of Engineering Science and Technology, Vol. 6, No. 8, pp. 474-488.
 58. Singh, P.P. and Garg, R.D. (2014). A two-stage framework for road extraction from high-resolution satellite images by using prominent features of impervious surfaces. International Journal of Remote Sensing, Taylor and Francis Publication, Vol. 35, No. 24, pp. 8074–8107. **(Impact factor 1.782). Q1**
 59. Singh, P.P. and Garg, R.D. (2014). Classification of high-resolution satellite images using spatial constraints based fuzzy clustering. Journal of Applied Remote Sensing, Vol. 8, No. 1, pp. 083526:1-16. **(Impact Factor 1.107). Q2**
 60. Aggarwal, A. and Garg, R.D. (2015). Systematic approach towards extracting endmember spectra from hyperspectral image using PPI and SMACC and its evaluation using spectral library. Applied Geomatics, Springer, Vol. 7, No. 1, pp. 37-48. **Q1**
 61. Pritee, K., Garg, R.D. and Oberai, K. (2015). Web based geoprocessing using open source tools. International Journal of Advanced Technology in Engineering and Science, Vol. 3, Special Issue 2, pp. 102-112.
 62. Pritee, K., Garg, R.D. and Ohri, A. (2015). Windows Implementation of PgRouting to find Shortest Path using Dijkstra's Algorithm for Varanasi Road Network. Journal of Basic and Applied Engineering Research, Vol. 2, No. 2, pp. 85-88.

63. Mukherjee, Samadrita, Mukherjee, Sandeep, Bhardwaj, A., Mukhopadhyay, A., Garg, R.D. and Hazra, S. (2015). Accuracy of Cartosat-1 DEM and its derived attribute at multiple scale representation. *Journal of Earth System Science*, Springer Publication, Vol. 124, No. 3, pp. 487–495. **(Impact factor 0.955). Q2**
64. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2015). Comparative Study of Satellite Based Estimated Rainfall Data with Rain Gauge Data Over Himalayan River Basin of India. *Journal of Indian Cartographer*, Vol. 35: 2015, pp. 518-524.
65. Mukherjee, S., Joshi, P.K. and Garg, R.D. (2015). Evaluation of LST downscaling algorithms on seasonal thermal data in humid subtropical regions of India. *International Journal of Remote Sensing*, Taylor and Francis Publication, Vol. 36, No. 10, pp. 2503-2523. **(Impact factor 1.782). Q1**
66. Mukherjee, S., Joshi, P.K. and Garg, R.D. (2015). Regression-kriging technique to downscale satellite derived land surface temperature in heterogeneous agricultural landscape. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 8, No. 3, pp. 1245-1250. **(Impact factor 2.913). Q1**
67. Singh, H. and Garg, R.D. (2015). An interoperable framework for metadata catalogue repository to access groundwater datasets using open source technology. *Journal of Geomatics*, Vol. 9, No. 1, pp. 107-114.
68. Singh, P.P. and Garg, R.D. (2015). Fixed Point ICA Based Approach for Maximizing the Non-gaussianity in Remote Sensing Image Classification. *Journal of Indian Society of Remote Sensing*, Springer Publication, Vol. 43, No. 4, pp. 851-858. **(Impact Factor: 0.810). Q2**
69. Rathod, R.R. and Garg, R.D. (2016). Regional electricity consumption analysis for consumers using data mining techniques and consumer meter reading data. *International Journal of Electrical Power and Energy Systems*, Elsevier Publication, Vol. 78, pp. 368-374. **(Impact factor 3.610; 5-year Impact factor 3.592). Q1**
70. Singh, H. and Garg, R.D. (2016). Web 3D GIS Application for Flood Simulation and Querying through Open Source Technology. *Journal of Indian Society of Remote Sensing*, Springer Publication, Vol. 44, No. 4, pp. 485-494. **(Impact factor 0.810; 5-year Impact Factor: 0.869). Q2**
71. Srivastava, V., Stein, A., Rossiter, D.G., Garg, P.K. and Garg, R.D. (2016). Simulated annealing with variogram-based optimization to quantify spatial patterns of trees extracted from high-resolution imagery. *IEEE Geoscience and Remote Sensing Letters*, Vol. 13, No. 8, pp. 1084-1088. **(Impact factor 2.761). Q1**
72. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2016). Geo-spatial Approach for Estimation of Precipitation over the Upper Ganga River Basin, Uttarakhand, India. *Indian Journal of Science and Technology*, Vol. 9(48), pp. 2-8. DOI: 10.17485/ijst/2016/v9i48/95239. **Q3**
73. Rathod, R.R. and Garg, R.D. (2017). Design of Electricity Tariff Plans using Gap Statistic for K-means Clustering based on Consumers Monthly Electricity Consumption Data. *International Journal of Energy Sector Management*, Emerald Publication, UK, Vol. 11, Issue2, pp. 295-310. doi: 10.1108/IJESM-02-2016-0005. **Q2**
74. Pritee, K. and Garg, R.D. (2017). Cloud based spatial visualization with statistical approach for road accidents. *Spatial Information Research*, Springer publication, Vol. 25, No. 6, pp. 825-835.
75. Mukherjee, S., Joshi, P.K. and Garg, R.D. (2017). Analysis of urban built-up areas and surface urban heat island using downscaled MODIS derived land surface temperature data. *Geocarto International*, Vol. 32, Issue 8, pp. 900-918, doi: 10.1080/10106049.2016.1222634. **(Impact factor 1.759). Q2**
76. Pritee, K. and Garg, R.D. (2017). Interfacing Grass-GIS and R: Road Descriptive Statistical Representation based on Slope. *Journal of Remote Sensing and GIS*, Vol. 6, Issue 1, doi: 10.4172/2469-4134.1000188

77. Pritee, K., Garg, R.D. and Pandey, P.K. (2017). Review of Accident Information Systems in Web Domain. *Imperial Journal of Interdisciplinary Research*, Vol. 3, Issue 6, pp. 825-830.
78. Jeganathan, C., Kumar, P., Gupta, K., Garg, R.D., Sinha, A.K., Avisek, K. and Hebbale, R. (2017). Remote Sensing and GIS for Civil Engineering Applications and Human Development. *International Journal of Advancement in Remote Sensing, GIS and Geography*, Vol. 5, No. 1, pp. 1-18.
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Chapter in Book [=8]

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2. Pande, H., Garg, R.D., Sen, A.K. and Prakash, A. (2015). Impact of Mining Activities on Land Use Land Cover in the Jharia Coalfield, India; in the book 'Coal and Peat Fires: A Global Perspective, Volume 3: Case Studies - Coal Fires', Stracher, G.B., Prakash, A. and Sokol, E.V. (Ed.), Elsevier Publication, pp. 263-279.
3. Singh, P.P. and Garg, R.D. (2015). Classification of High Resolution Satellite Images Using Equivariant Robust Independent Component Analysis. in the book 'Advanced Computing, Networking and Informatics', vol. 27 of the series 'Smart Innovation, Systems and Technologies' pp 283-290.
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6. Pathak, S., Ojha, C.S.P., Zevenbergen, C. and Garg, R.D. (2017). Assessing Stormwater Harvesting Potential in Dehradun City Using Geospatial Technology, in the Book Chapter 4 in 'Development of Water Resources in India', Springer International Publishing AG, pp. 47-60. ISBN: 978-3-319-55124-1
7. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2017). Application of Overall Index of Pollution (OIP) for the assessment of the Surface Water Quality in the Upper Ganga River Basin, India; in the Book Chapter 12 in 'Development of Water Resource in India', Springer International Publishing AG, pp. 135-149. ISBN: 978-3-319-55124-1
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Educational Content Development [=2]

S. No.	Title	Sponsoring Agency	Amount	PI/ Co-PI	Duration	Names PI/ Co-PI
1.	Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning	MHRD, New Delhi	₹ 5.6 Lakhs	PI	Sep. 09 – Jun 16	Principal Developer of the course
2.	NPTEL Phase-II project for development of web based course on 'Global Positioning System'	MHRD, New Delhi	₹ 2 Lakhs	PI	Sep. 10 – Mar 15	Principal Developer of the course

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9. Garg, R.D., Garg, P.K. and Govil, S.K. (2002). Optimal Transport Route Planning in Hilly Region using Remote Sensing Data. Proc. 'ISPRS International Symposium on Resource and Environmental Monitoring' at Hyderabad, December 3-6, 2002.
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13. Garg, R.D., Garg, P.K. and Govil, S.K. (2004). Transport Route Planning in Hilly Region using Satellite Image Fusion Techniques. Proc. International Conference on Signal Processing and Robotics, IIIT, Allahabad, 20-23 Feb. 2004.
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16. Garg, R.D., Garg, P.K. and Govil, S.K. (2006). Prediction Models for New Transport Routes through Hilly Region. Poster paper, Indo-Australian Conference on "IT Applications in Civil Engineering", IIT Roorkee, Feb. 20-21, 2006.
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25. Kumar, Pankaj, Nayak, A., Sharma, N. and Garg, R.D. (2008). Remote Sensing based assessment of channel instability in Ganga river inhibiting fairway sustainability. Workshop on River Training Works, Inland Waterways Authority of India (IWAI), Patna, 9 May, 2008.
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66. Kumar, P., Garg, R.D. and Kanji, R. (2013). GIS Aided Evacuation Planning: A Path to Relief in Disaster. 14th ESRI India User Conference, New Delhi, December, 10-12, 2013
67. Aeron, A., Garg, R.D., Arya, D.S. and Aggarwal, S.P. (2013). Development of Web GIS based Flood Disaster Management System using Open Source Software. The International Conference on Geospatial Momentum for Society and Environment (AGSE-2013), CEPT University, Ahmedabad, December 16-19, 2013.
68. Aeron, A., Garg, R.D., Arya, D.S. and Aggarwal, S.P. (2013). Hydro-meteorological Disasters and Climate Change: Strategies, Prospects and Challenges. The International Conference on Geospatial Momentum for Society and Environment (AGSE-2013), CEPT University, Ahmedabad, December 16-19, 2013.
69. Mukherjee, S., Joshi, P.K. and Garg, R.D. (2014). Land Surface Temperature retrieval from Landsat and MODIS data and its resolution sharpening procedure over mixed agricultural region of India. National Seminar on Remote Sensing & Environment, Jadavpur University, Kolkata, March 20-22, 2014. Received '**Best Paper Award**' for this research paper.
70. Gupta, A. and Garg, R.D. (2014). A Study of Geospatial Model for Power Transmission Line Routing. National Conference on Emerging Trends in Engineering Science & Technology (NCETEST-2014), Roorkee, March 29-30, 2014.
71. Ojha, C.S.P., Garg, R.D., Arora, H., Wouter, B. (2014). Time Series/Trend Analysis of Certain Meteorological Variables in Ganga Basin, India. poster presentation. NERC- Changing Water Cycle- Annual meeting, Oxford, UK, June 25-26, 2014.
72. Pritee, K., Garg, R.D., Oberai, K. and Kumar, D. (2014). Online Geoprocessing Using Open Source Tools. XVIII Annual International Conference on Operations Management in Digital Economy, Society of Operations Management (SOM), IIT Roorkee, December 12-14, 2014.
73. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2014). Satellite based estimation and validation of monthly rainfall distribution over upper Ganga river basin. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-8, 2014. ISPRS

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75. Garg, R.D. (2014). Geoportal for natural resource management. National Workshop on Geospatial Technologies: GIS initiatives for Decentralized Planning and strengthening e-governance, Bikaner, December 16-17, 2014. **(Keynote paper)**
76. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2015). Estimation of rainfall variability from TRMM satellite data over upper Ganga river basin, Uttarakhand, India. 9th Uttarakhand State Science and Technology Congress 2014-15, Dehradun, February 26-28, 2015. Received **'Best Paper Award'** for this research paper.
77. Singla, S., Dubey, O.P. and Garg, R.D. (2015). Applications of Geoinformatics in Automated Crop Inventory. International Conference on Advances in Engineering and Technology, Bhai Gurdas Institute of Engineering and Technology, Sangrur, Punjab, March 20-21, 2015.
78. Singh, H., Karnatak, H., Garg, R.D., Roy, A. and Jha A.K. (2015). Geostatistical computing for spatial landscape modelling using open source technology. Second National Conference on Open source geospatial tools in climate change research and natural resources management, Dehradun, June 8-10, 2015.
79. Kuldeep, Garg, P. K. and Garg, R. D. (2015). "Application of Wavelet Based Texture Features in Context of Object Extraction from High Resolution Satellite Images" ACRS, Manila, Philippines, 19-23 October, 2015.
80. Pritee, K. and Garg, R.D. (2015). Interfacing GRASS-GIS and R: road descriptive statistical representation based on slope. Proc. Asian Conference on Remote Sensing (ACRS), Philippines, 19-23 October 2015, pp. 3452-3456.
81. Kapoor, M., Meouche, R.E., Bassir, D., Garg, R.D. and Ganguly, K. (2015). Modeling LiDAR data in 3D Building for Expansion. National Symposium on Geomatics for Digital India, Jaipur, December 16-18, 2015.
82. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2015). Comparative Study of TRMM Satellite Estimated Rainfall Data with Rain Gauge Data over Himalayan River Basin of India. HYDRO 2015, 20th International Conference on Hydraulics, Water Resources and River Engineering, IIT Roorkee, India, December 17-19, 2015, pp. 146-147.
83. Pritee, K. and Garg, R.D. (2015). Design of UML Architecture for Advanced Accident Information System. 3rd Conference of Transportation Research Group (CTRG) of India, Kolkata, December 17-20, 2015.
84. Shukla, A.K., Ojha, C.S.P. and Garg, R.D. (2016). Statistical Analysis of Annual Rainfall Distribution for Water Resources in Upper Ganga river basin, Uttarakhand, India using TRMM Algorithm. 10th Uttarakhand State Science and Technology Congress 2015-16, Dehradun, February 10-12, 2016.
85. Kumar, S., Garg, R.D. and Kushwaha, S.P.S. (2016). Deorientation of PolSAR coherency matrix for volume scattering retrieval. SPIE Asia-Pacific Remote Sensing Conference, New Delhi. Proc. SPIE 9877, Land Surface and Cryosphere Remote Sensing III, 987705, May 5, 2016; doi:10.1117/12.2223680
86. Kuldeep, Garg, P.K. and Garg, R.D. (2016). Geospatial techniques for flood inundation mapping. International Geoscience and Remote Sensing Symposium (IGARSS), Beijing, China, 10-15 July 2016, pp. 4387-4390. DOI: 10.1109/IGARSS.2016.7730143
87. Shukla, A.K., Ojha, C.S.P., Garg, R.D. and Singh, R.P. (2016). Calibration of TRMM rainfall climatology over Uttarakhand State, India during 1998–2012. International Geoscience and

- Remote Sensing Symposium (IGARSS), Beijing, China, 10-15 July 2016, pp. 609-612. DOI: 10.1109/IGARSS.2016.7729152.
88. Pathak, S., Shukla, A.K., Ojha, C.S.P., Garg, R.D. (2016). Identifying hot spots for stormwater harvesting and reuse in urban areas applying remote sensing, GIS and system optimization techniques. International Geoscience and Remote Sensing Symposium (IGARSS), Beijing, China, 10-15 July 2016, pp. 967-970.
 89. Shukla, G., Garg, R.D., Srivastava, H.S. and Garg, P.K. (2016). Random Forests applied as a soil spatial predictive model across an aridic to ustic area of Indian States, 35th International Geological Congress (IGC 2016), Cape Town, South Africa, August 25 – September 04, 2016.
 90. Singla, S., Garg, R.D. and Dubey, O.P. (2016). Decision tree approach for sugarcane crop classification using temporal NDVI profile from Landsat 8 in Himalayan foothills region. Asian Conference on Remote Sensing (ACRS), Colombo, Sri Lanka, 17-21 October, 2016.
 91. Pathak, S., Ojha, C.S.P. and Garg, R.D. (2018). An Approach to Identify Stormwater Harvesting Hotspots for Dehradun, Uttarakhand. RTCWRE-17 Holy Mary Institute of Technology and Science, Hyderabad, India, 10-11 August 2017.
 92. Kapoor, M. and Garg, R.D. (2017). Geomatics and Software Tool to Assess Solar Potential of Unnat Bharat Abhiyan (UBA) Village. 3rd India International Science Festival (IISF-2017), Chennai, 13-16 October, 2017. **Awarded Top Poster at Sensitizing Youth to Flagship Programs of Government (SYPOG)**
 93. Pritee, K. and Garg, R.D. (2017). A study of GIS tools for road accident analysis. National Conference on Roads and Transport (NCORT-2017), IIT Roorkee, 14-15 October 2017.
 94. Singh, H., Garg, R.D., Karnatak, H.C. and Roy, A. (2017). Parallel computing based web geoprocessing services for deriving forest fragmentation index in the Himalaya. 38th Asian Conference of Remote Sensing (ACRS), New Delhi, 23-27 October, 2017.
 95. Garg, R.D., Guha, S., Mondal, A., Lakshmi, V. and Kundu, S. (2017). Downscaling of Seasonal Landsat-8 and MODIS Land Surface Temperature (LST) in Kolkata, India. American Geophysical Union (AGU) Fall Meeting 2017, New Orleans, USA, 11-15 December 2017.
 96. Guha, S., Mondal, A., Lakshmi, V., Kundu, S., Garg, R.D. and Govil, H. (2017). Evaluation of the NCI Technique in Land use/ Land cover Change Detection using Landsat data. American Geophysical Union (AGU) Fall Meeting 2017, New Orleans, USA, 11-15 December 2017.
 97. Shukla, A.K., Ojha, C.S.P., Garg, R.D., Pathak, S. and Shukla, S. (2018). Groundwater Appraisal of Dehradun City, Uttarakhand, India using Remote Sensing and Geographical Information System Technology. STIWM 2018, Roorkee, India, Feb 16-19, 2018.
 98. Garg, R.D. (2018). Digital Satellite Image Processing and Applications in Natural Resource Management. Workshop on Computer Vision and Image Processing (WCVIP-2018), IIT Roorkee, 9-11 March, 2018. **(Keynote speaker)**
 99. Mestri, R., Rathod, R.R. and Garg, R.D. (2018). Identification and Removal of Accident Prone Locations Using Spatial Data Mining. International Conference on Geomatics in Civil Engineering (ICGCE-2018), IIT Roorkee, 5-6 April, 2018.
 100. Pathak, S., Ojha, C. S. P., Garg, R. D. and Lakshmi, V. (2018). WebGIS based representation of hotspots for Stormwater harvesting in Dehradun, India. Japan Geoscience Union (JpGU), Chiba, Japan, 20-24 May 2018.
 101. Pathak, S., Ojha, C. S. P., Garg, R. D. and Lakshmi, V. (2018). Urbanization and Its Impact On Stormwater Runoff Potential Using Geospatial Tools. In Geoscience and Remote Sensing Symposium (IGARSS), 2018 IEEE International, Valencia, Spain, 23-27 July, 2018.
 102. Shinde, V.R., Tasgaonkar, P.P. and Garg, R.D. (2018). Environment Monitoring System through Internet of Things (IOT). International Conference on Information, Communication, Engineering and Technology (ICICET-2018), IEEE, Pune, 29-31 August 2018.

Thesis Supervision (Ph.D.)

S. No.	Name of the Student	Title of Thesis	Co-supervisors	Year of award
1.	Ms. Rashmi Kandwal	GIS based geostatistical analysis and modelling for HIV/AIDS epidemic	Prof. P.K. Garg, CED	2011
2.	Mr. Praveen Kumar	Snow – ice parameter retrieval using Active Remote Sensing	Prof. P.K. Garg, CED	2012
3.	Ms. Poonam S. Tiwari	Hydrothermal alteration study using multisensor data in eastern Rajasthan	Dr. A.K. Sen, ESD Dr. V.K. Dadhwal, NRSC	2014
4.	Ms. Hina Pandey	Mining impact assessment in Jharia coalfield using earth observation technique	Dr. A.K. Sen, ESD Dr. V.K. Dadhwal, NRSC	2014
5.	Mr. Pankaj Pratap Singh	Efficient hybrid classification of urban objects using high resolution satellite images	-	2015
6.	Ms. Etishree Agarwal	Assessment of groundwater regime using geospatial and flow modeling techniques	Dr. S.K. Srivastav, IIRS	2015
7.	Mr. D.C. Bala	GPR based pavement layer evaluation and utility detection	Prof. S.S. Jain, CED	2015
8.	Ms. Vandita Srivastava	Information extraction on trees from very high resolution satellite images	Prof. P.K. Garg, CED	2015
9.	Mr. Sandip Mukherjee	Downscaling of coarse resolution open source remotely sensed satellite based land surface temperature data	Prof. P.K. Joshi, TU	2016
10.	Mr. Anurag Aeron	Web based Spatial Decision Support System for flood risk mapping	Dr. D.S. Arya, DOH Dr. S.P. Aggarwal, IIRS	2016
11.	Mr. Rathod R.R.	Spatial Data Mining methods for electricity consumption profiling	-	2017
12.	Mr. Deepak Singh	Assessment of water-ice on Lunar surface using Chandrayaan and terrestrial data	Prof. P.K. Garg, CED	2018
13.	Mr. Kuldeep	Texture based extraction of islands and flood vulnerability assessment using RS	Prof. P.K. Garg, CED	2018
14.	Mr. Gaurav Shukla	Surface Soil Moisture Retrieval Using Remote Sensing Images	Prof. P.K. Garg, CED Dr. H.S. Srivastava, IIRS	2018
15.	Mr. Anoop Kumar Shukla	Precipitation and Water Yield Variability in Upper Ganga basin using Geomatics	Prof. C.S.P. Ojha, CED	2018
16.	Mr. Shray Pathak	Identification of stormwater harvesting sites using Geomatics tools	Prof. C.S.P. Ojha, CED	Submitted
17.	Mr. Hariom Singh	Geostatistical computing as Web Processing Service on open system architecture	Dr. H. Karnatak, IIRS	Pre-Synopsis completed
18.	Ms. Kumari Pritee	Webportal for accident analysis	-	Pre-Synopsis completed

19.	Mr. Shashi Kumar	PolSAR Tomography for above ground biomass estimation	Dr. S.P.S. Kushwaha, IIRS	Ongoing
20.	Mr. Sandip K. Singla	Extraction of crop information using Geomatics techniques	Prof. O.P. Dubey	Ongoing
21.	Mr. Sunil Kumar Pundir	Terrain geointelligence for trafficability	-	Ongoing
22.	Mr. Himanshu Bana	Smart wireless sensor network for monitoring and prediction of draught	-	Ongoing
23.	Mr. Mudit Kapoor	Data assimilation using cloud GIS	-	Ongoing
24.	Mr. Mayank Sharma	Implementation of machine learning methods for information extraction from multi-platform and multi-sensor data	-	Ongoing
25.	Mr. Pankaj Tasgaonkar	Pilgrim vehicle tracking and location based services using Remote Sensing and GIS	Prof. P.K. Garg, CED	Ongoing
26.	Mr. Prateek Tripathi	Parameter extraction using imaging spectroscopy	-	Ongoing
27.	Mr. Ankit Chaudhary	Pavement management and transportation safety	Prof. S.S. Jain, CED	Ongoing

Thesis Supervision (M.Tech.)

S. No.	Name of the Student	Title of Thesis	Co- supervisors	Year of award
1.	Nilesh Yadav	WebGIS for smart sewage design and monitoring for smart city	-	Ongoing
2.	Saurabh Bhoiya	Review of influence of hydrological parameters on the high altitude natural vegetation dynamics	-	Ongoing
3.	Nikhil Bansal	Data mining and image classification techniques for crop yield prediction	-	Ongoing
4.	Jatin Singh	Feasibility study of rail alignment in hilly region using Geomatics Tools	Prof. O.P. Dubey, CED	Ongoing
5.	Himanshu Gupta	Planning & development of an Adarsh Bhabhar Gram using watershed boundaries with the help of geo-spatial tools	Prof. O.P. Dubey, CED	2018
6.	Pankaj Kumar Dhawan	Application of Geomatics in study of subsidence in mining areas	Prof. O.P. Dubey, CED	2018
7.	Shweta Lall	GIS based design of Smart City amenities	-	2018
8.	Meenakshi Verma	GIS integrated Hydro Power assessment	Dr. M.K. Singhal, AHEC	2018
9.	Dyutishree Halder	Risk assessment of pluvial flooding due to urban environment using Geomatics tools	Prof. O.P. Dubey, CED	2017
10.	Manju Meena	Retrieval of land surface temperature and evapotranspiration using satellite remote sensing data	Prof. O.P. Dubey, CED	2017
11.	Rinku Kumari	GIS based urban seismic risk assessment of Haridwar city	Prof. O.P. Dubey, CED	2017
12.	Abel Hailu Bekele	Integrated watershed management plan for hilly watershed using Geomatics tool	Prof. O.P. Dubey, CED	2017
13.	Ankit Kumar	Carbon footprint assessment for Ahmedabad rapid transit system	Dr. P.S. Chani, APD	2016
14.	Anubhav Yadav	Identifying suitable sites for stormwater harvesting using Geomatics techniques	-	2016
15.	Robin Gautam	GIS based flood management for a part of upper Gangetic plains	Dr. U.P. Gupta, CWC, New Delhi	2016
16.	Lalit Kumar	GIS based mapping and analysis of village resources	-	2016
17.	Suchismita Sahoo	Web Based Dynamic Pre and Post Accident Analysis	-	2016
18.	Ritwick Bhardwaj	Station Area Planning based on Mode Choice in a TOD Corridor: Case of Bhopal BRTS	Dr. Uttam K. Roy, APD	2016
19.	Gaurav Tiwari	Channel Process and Morphology of Ganga river	Prof. Z. Ahmad, CED	2016
20.	Amit Nigam	Infrastructure Planning and Management Using GIS	-	2016
21.	Azeb Kebebew Bedane	Evaluation of Accident Black Spots on Roads using GIS	-	2016
22.	Rakesh Kumar Verma	Assessment of albedo-temperature relationship in context of land use and land cover changes	-	2015
23.	Animesh Singh	Identification of road surface defects using Geomatics techniques	Prof. Praveen Kumar, CED	2015

24.	Neha Jagtap	Analysis of spatio-temporal patterns of urban expansion using Geomatics techniques	-	2015
25.	Aseem Tigga	Experimental study of Pedestrian behavior in a corridor based on Digital Image Processing	Prof. M. Parida, CED	2015
26.	Nitin Raj	GIS based road life cycle management system	Dr. Devesh Tiwari, CRRI, New Delhi	2015
27.	Anurag Shrivastava	Downscaling of Thermal imagery by adding spatial details	-	2014
28.	Vijay M. Khandar	Heat island analysis of urban area using geomatics techniques	-	2014
29.	Himanshu Bana	Time Domain Method for GPR Simulation in Dispersive media	-	2014
30.	Vishwas Vashistha	Spectral filter testing for DEM generation using InSAR data	-	2014
31.	Pankaj Kumar	Evacuation planning in the event of disaster in GIS environment	-	2014
32.	Udbhav Joshi	Development of methodology for utility detection and pavement layers using GPR	Prof. S.S. Jain, CED	2013
33.	Inshu Chauhan	Classification of high density mobile mapping LiDAR data in Urban Landscape	Prof. M. Parida, CED Dr. Claus Brenner, Germany	2013
34.	M.D. Sarat Chandra	Knowledge based sub-pixel classification for land cover mapping	-	2012
35.	Arpit Agarwal	Glacial Lake Outburst Flood (GLOF) analysis of glaciers and glacial lakes in a Himalayan basin	Dr. S.K. Jain, NIH Dr. A.K. Lohani, NIH	2012
36.	Amit Ranjan	Development of GIS based noise map for Roorkee city	Prof. M. Parida, CED	2012
37.	Sachin Kumar	Optimum band selection for discrimination of various land cover features using hyperspectral data	Mrs. Shefali Agarwal, IIRS, Dehradun	2011
38.	Varun Kumar Pandey	Route alignment planning in GIS	-	2011
39.	Rakesh Chandra Joshi	Extraction of land cover features in a flood plain area using microwave data	-	2010
40.	Yogesh Mukhi	Integration of geospatial based conceptual approach in a landslide warning system	Prof. P.K. Garg, CED	2010
41.	Priyanka Chaturvedi	Artificial Neural Network analysis of geodata	Dr. J.K. Ghosh, CED	2010
42.	Vikas Kumar Samaria	Classification of terrain using LiDAR data	Dr. B. Lohani, Asso. Prof., IIT Kanpur	2009
43.	Vinay Kumar	Evaluation of spectral characteristics of urban land use using hyperspectral data	-	2009
44.	Md. Parwez Akhtar	Study of morphology and river management of Ganga and Koshi rivers at few sites	Prof. Nayan Sharma, WRDM	2009
45.	A.S. Subramanyam	Upgradation planning of rural roads using GIS and GPS	Prof. Praveen Kumar, CED Dr. B. Kanagadurai, CRRI, New Delhi	2009
46.	Mayank Shekhar Pant	Estimation of Hydropower potential using hydrologic modelling	Prof. C.S.P. Ojha, CED	2009

47.	Nisha Verma	Evaluation of Geometric and Radiometric properties of AWiFS image	Prof. P.K. Garg, IIT Roorkee	2008
48.	Mohit Mittal	DSS for identification of Special Economic Zones using Geoinformation Techniques	Prof. P.K. Garg, IIT Roorkee	2008
49.	Ritu Gupta	Generation of georeferenced frame work for multi-date AWiFS data sets	Mrs. Shefali Agarwal, IIRS, Dehradun Dr. R. Sivakumar, BIT, Ranchi	2007
50.	Moitrayee Mazumdar	Evaluation of techniques for radiometric normalization and atmospheric correction of multi-date AWiFS data (IRS P6)	Mrs. Shefali Agarwal, IIRS, Dehradun Dr. N. Patel, Prof. BIT, Ranchi	2007
51.	Md. Surabuddin Mondal	Geoinformatics Based Assessment of Geoenvironment and Utility-Facility for Urban Planning in and around Rishikesh Town	Dr. A.C. Pandey, Sr. Lecturer, BIT, Ranchi	2005

SPONSORED RESEARCH PROJECTS (10 completed + 5 ongoing)

S. No.	Title	Sponsoring Agency	Amount	PI/ Co-PI	Duration	Names PI/ Co-PI
1.	Preparation of Digital Maps for Moga township in Punjab using Digital Photogrammetric techniques for generation of Urban Resource Information System	Town and Country Planning Dept., Punjab Govt.	₹ 10 Lakhs	Co-PI	June 03 – Mar.05	Prof. S.K. Govil (PI) and others
2.	Preparation and Evaluation of georeferenced multi-date AWiFS Vegetation Indices datasets	NRSC, Hyderabad	₹ 12 Lakhs	PI	Apr. 05 – May 07	Shefali Agarwal (Co-PI)
3.	National level assessment of Land Use/Land Cover on 1: 250,000 scale using Advanced Wide Field Sensor data of Resourcesat-1	Department of Space, Bangalore	₹ 8 Lakhs	Co-PI	Aug. 05 – May 07	Dr. PS Roy (PI)
4.	Development of Critical Infrastructure Development System in GIS Environment for Maintenance of Bridges on NHs and SHs	CRRI, New Delhi	₹ 7.97 Lakhs	Co-PI	Apr. 08 – Dec. 10	Prof. PK Garg (PI)
5.	Constrained and non-constrained analysis of spaceborne Hyperspectral Data	IIT Roorkee	₹ 4.1 Lakhs	PI	Sep. 08 – Dec. 11	-
6.	Institutional Capacity reinforcement of Hanoi University in education and research in remote sensing and GIS applied to monitoring and management of natural resources	DST, New Delhi	₹ 7.06 Lakhs	Co-PI	May 09 – June 11	Prof. PK Garg (PI)
7.	Development of Geo-visualisation tool for ground water resource management	DST, New Delhi	₹25.38 Lakhs	PI	Aug. 09 – Mar 14	Prof. PK Garg (Co-PI)
8.	Development of Virtual Lab for Surveying and Geomatics experiments under National Mission on Education through ICT (NMEICT) of MHRD	MHRD, New Delhi	₹ 30 Lakhs	Co-PI	Nov. 09 – (in progress)	Prof. RS Anand (PI) and others
9.	Study of earth's moon for water ice with miniSAR onboard Chandrayaan-1	PRL (ISRO), Ahmedabad	₹28.16 Lakhs	Co-PI	Aug. 10 – Jun 14	Prof. PK Garg (PI)
10.	Development of geoinformatic techniques for defining sensitive and vulnerable drought area under impact of the global climate change in south central of Vietnam (case study in NinhThuan Province)	DST, New Delhi	₹ 7.06 Lakhs	Co-PI	Mar 12 – Jun 14	Prof. SK Ghosh (PI)

11.	Hydro-meteorological feedbacks and changes in water storage and fluxes in Northern India (in collaboration with Imperial College, London, Univ. of Reading, U.K., IISc Bangalore, IITK)	NERC (U.K.)-MOES (India)	₹1.3 Crore (IITR component)	Co-PI	Nov 12 – Jul 16	Prof. CSP Ojha (PI)
12.	Unmanned Aerial Vehicles for optical and thermal remote sensing	IITR (Smile scheme)	₹34.93 Lakhs	PI	May 17 - ongoing	Prof. SK Ghosh and others (Co-PI)
13.	Capacity building of IIT Roorkee in Dam safety Under DRIP (*Geomatics component ₹49 Lakhs)	CWC, New Delhi	₹10.92 Crore*	Co-PI	Oct 17 – ongoing	Prof. NK Goel (PI) and others
14.	Research and development of algorithms and software for the processing, storage and visualization of laser scanning and photography data (in collaboration with East China Normal University, Shanghai, China and Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia)	DST, New Delhi (BRICS 2016 scheme)	₹ 26.9 Lakhs (IITR component)	PI	Nov 17 – ongoing	Prof. CSP Ojha (Co-PI)
15.	Development and realization of high accuracy indoor and outdoor seamless positioning system: hardware and software (in collaboration with East China Normal University, Shanghai, China and Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia)	DST, New Delhi (BRICS 2017 scheme)	₹ 50 Lakhs (IITR component)	PI	Oct 18 – ongoing	Prof. PK Garg (Co-PI)

Consultancy Projects

S. No.	Title	Sponsoring agency	Amount	PI/ Co-PI	Duration	Names PI/ Co-PI
1.	Contouring of Sun temple site near Almora, Uttarakhand	CBRI, Roorkee	₹ 2.25 Lakhs	Co-PI	Aug. 07 - Nov. 08	Prof. PK Garg (PI)
2.	Brahmaputra River Erosion and Control	NDMA, New Delhi	₹ 13.48 Lakhs (Phase-I)	Co-PI	Jan. 08 – June 10	Prof. Nayan Sharma (PI)
3.	Ganga Expressway – Groundwater Hydrological Studies	JP Ventures Ltd.	₹ 22.47 Lakhs	Co-PI	Feb. 08 – Nov. 09	Prof. D Kashyap (PI) and others
4.	GPS based survey work	Bhagwati Sugar Mill, Gorakhpur	₹ 0.4 Lakhs	Co-PI	Oct. 08 – Dec. 08	Prof. PK Garg (PI)
5.	Checking and vetting of micro-level survey work of command area of Chandausi branch	PESKON, Ghaziabad	₹ 1.34 Lakhs	Co-PI	May 09 – Mar. 10	Prof. PK Garg (PI)
6.	Quality Assurance of State Highways in the state of Bihar under RSVY project – Field studies and sample collection	CPWD, New Delhi	₹ 40 Lakhs	Co-PI	May 09 – Mar. 15	Prof. SS Jain (PI) and others
7.	Topographical Survey for Township of LPHPP, Uttarkashi	NTPC, New Delhi	₹ 24.60 Lakhs	Co-PI	Jun. 09 – Mar. 11	Prof. SK Ghosh (PI)
8.	Topographical Surveying of Palemvagu dam site	United India Insurance, A.P.	₹ 6.89 Lakhs	PI	Aug. 09 - Dec. 10	Prof. PK Garg, Prof. S.K. Ghosh (Co-PI)
9.	Meandering of river Ram Ganga	Gas Authority of India Ltd., New Delhi	₹ 8 Lakhs	Co-PI	Jan. 10 – Feb. 11	Prof. NK Goel (PI) and others
10.	Contouring along road in between Garud Ganga and Belakuchi village, Chamoli	CBRI, Roorkee	₹4.08 Lakhs	Co-PI	Apr. 10 – Feb. 11	Prof. PK Garg (PI)
11.	Hydrological studies for Shamshabad area	GMR Infrastructure Ltd., Hyderabad	₹15 Lakhs	Co-PI	Apr. 10 – Sep. 11	Prof. NK Goel (PI) and others
12.	Cumulative impact of hydropower projects in Bhagirathi and Alaknanda basin (Uttarakhand)	Ministry of Environment and Forests, New Delhi	₹85.43 Lakhs	Co-PI	Apr 10 – Mar 12	Prof. Arun Kumar (PI) and others
13.	Snowfed area studies of Nyukcharongchu and Magochu catchments	SewNyukcharongchu Power Corporation Pvt. Ltd., Hyderabad	₹4.8 Lakhs	Co-PI	Jun. 10 – Mar. 11	Prof. NK Goel (PI) and others
14.	Rapid EIA studies for IIE Sitarganj	DGM, SIDCUL, Dehradun	₹14.5 Lakhs	Co-PI	Aug. 10 – Feb. 11	Prof. AA Kazmi (PI)
15.	Design of overlays and profile correction for strengthening of road - Azadpur to Mukarba Chowk, New Delhi	Ex.En. PWD, NCTD, New Delhi	₹4.6 Lakhs	Co-PI	Apr. 11 – Sep. 11	Prof. SS Jain (PI) and others
16.	Lake conservation works and preparation of DPRs for Gadisar Lake, Jaisalmer	NLCP, Govt. of Rajasthan	₹35.2 Lakhs	Co-PI	Feb. 11 – Nov. 11	Prof. Arun Kumar (PI) and others

17.	Lake conservation works and preparation of DPRs for Kailana Lake, Jodhpur	NLCP, Govt. of Rajasthan	₹39.0 Lakhs	Co-PI	Feb. 11 – Nov. 11	Prof. Arun Kumar (PI) and others
18.	Survey, Demarcation and Verification of defense land at Meerut	Cantt. Board, Meerut	₹36 Lakhs	Co-PI	Apr. 11 – Mar 16	Prof. SK Ghosh (PI) and others
19.	Survey, Demarcation and Verification of defense land at Roorkee	Cantt. Board, Roorkee	₹ 8.75 Lakhs	Co-PI	Apr. 11 – Mar 16	Prof. SK Ghosh (PI) and others
20.	Survey, Demarcation and Verification of defense land in Lansdowne	Cantt. Board, Lansdowne	₹ 10.94 Lakhs	Co-PI	Apr. 11 – Mar 16	Prof. SK Ghosh (PI) and others
21.	Identification and analysis of sub-surface cavities/ utilities by GPR in Delhi	Ex.En. PWD, NCTD, New Delhi	₹ 4.6 Lakhs	Co-PI	Sep. 11 – Mar 16	Prof. SS Jain (PI)
22.	Survey, Demarcation and Verification of defense land in Dehradun	Cantt. Board, Dehradun	₹36 Lakhs	Co-PI	Jan. 12 – Mar 16	Prof. SK Ghosh (PI) and others
23.	Survey, Demarcation and Verification of defense land in Landaaur	Cantt. Board, Landaaur	₹ 10 Lakhs	Co-PI	Jan. 12 – Mar 16	Prof. SK Ghosh (PI) and others
24.	Survey, Demarcation and Verification of defense land in Clementtown	Cantt. Board, Clementtown	₹ 14 Lakhs	Co-PI	Jan. 12 – Mar 16	Prof. SK Ghosh (PI) and others
25.	Topographic survey and contouring of two landslides along Pipalkoti-Joshimath road	CBRI, Roorkee	₹ 4 Lakhs	Co-PI	May 12 - Dec 12	Prof. PK Garg (PI)
26.	Benkelman Beam deflection and Profile correction studies on MCD roads	Ex.En. PWD, CRM Div., M-213, New Delhi	₹ 11.5 Lakhs	Co-PI	Jun 12 – Mar 14	Prof. SS Jain (PI) and others
27.	Profile correction studies for strengthening of MCD roads	Ex.En. PWD, CRM Div., M-212, New Delhi	₹20.78 Lakhs	Co-PI	Jul 12 – Mar 14	Prof. SS Jain (PI) and others
28.	Site visit, proof check of design, soil tests, checking of levels at site	UPRNN, Meerut	₹ 28.65 Lakhs	Co-PI	Jul 13 – Mar 16	Dr. S Mittal (PI) and others
29.	Checking of levels of anicut from stability view point	CFCL Kota	₹ 3.37 Lakhs	PI	Jun 14 - Mar 15	Dr. S Mittal (Co-PI)
30.	Site visit for verticality and health assessment of building of CFCL Kota	CFCL Kota	₹ 0.72 Lakhs	PI	Oct 14 - Dec 14	Dr. S Mittal (Co-PI)
31.	Condition assessment of chimneys	NTPC, Sipat	₹ 20 Lakhs	Co-PI	Oct 14 - Mar 15	Dr. Umesh Sharma (PI)
32.	Review of Hydrological report of VSI project	AAI, Port Blair	₹ 10 Lakhs	Co-PI	Jan 15 - Mar 16	Prof. NK Goel (PI)
33.	Morphological Studies of River Ganga, Sharda and Rapti using Remote Sensing Technique	Central Water Commission, New Delhi	₹ 2.28 Crores	Co-PI	Apr 15 - (in progress)	Prof. Z Ahmad (PI) and others
34.	Checking the soundness of sub structure and foundation of the Mahatma Gandhi Setu at Patna (*Geomatics component ₹17 Lakhs)	MoRTH, New Delhi	₹ 2 Crores	Co-PI	Apr 16 - Mar 17	Prof. Z Ahmad (PI) and others
35.	Design of overlays by Benkelman beam deflection and Profile correction studies on MCD roads	Ex.En. PWD (North East), M-213, New Delhi	₹35 Lakhs	Co-PI	Oct 16- Apr 17	Prof. SS Jain (PI)

36.	Field Survey and monitoring for ascertaining tilt of building blocks	Pushkarraj Consultants, Kolkata	₹5.75 Lakhs	PI	Dec 16- July 17	-
37.	Design of overlays by Benkelman beam deflection, traffic volume studies and Profile correction studies on MCD roads	Ex.En. PWD (North East), Road M, Shastri Park, New Delhi	₹ 23.69 Lakhs	Co-PI	Apr 17- Oct 17	Prof. SS Jain (PI)