Academic Resume in Details

Name : **Dr. JOSODHIR DAS,**

PROFESSOR

Dept. of Earthquake Engg., IIT Roorkee

Academic record : Ph. D. (1995) in Earth Sciences from University of Roorkee/IITR
M.Tech. (1984) from University of Roorkee/IITR

Research Field: Seismotectonics, Seismic Hazard studies, Remote Sensing, GIS.

Scientific Paper Publications in Journals

1. Lallawmawma, C., Sharma, M. L. and Das, J. (2023) Probabilistic Seismic Hazard and Risk Assessment of Mizoram, North East India. Natural Hazards Research (Accepted).

2. Dwivedi, D.K., Saraf, A.K., Das, J. (2023) Geoinformatics-based Investigation of Slope Failure and Landslide Damming of Chenab River, Lahaul-Spiti, Himachal Pradesh, India, Natural Hazards Research (Accepted).

3. Panchal, H., Bahuguna, A., Saraf, A.K. and Das, J. (2023) Thermal Anomaly, Co-Seismic Deformation and Seismic Source Parameters Estimation of June 21 2022, Afghanistan Earthquake Employing InSAR Observations. Pure and Applied Geophysics, ure Appl. Geophys., https://doi.org/10.1007/s00024-023-03276-0.

4. Gupta, N., Pal, S. K., & Das, J. (2022). GIS-based evolution and comparisons of landslide susceptibility mapping of the East Sikkim Himalaya. Annals of GIS, 1-26. https://doi.org/10.1080/19475683.2022.2040587.

5. Nijhawan Rahul, Das Josodhir, and Raman Balasubrmanian (2018) A hybrid of deep learning and hand-crafted features based approach for snow cover mapping. International Journal of Remote Sensing, DOI: 10.1080/01431161.2018.1519277.

6. Rout, M.M., Das, Josodhir and Kamal (2018) Probabilistic seismic hazard for Himalayan region using kernel estimation method (zone-free method). Natural Hazards, Nat Hazards, 93, 967-985 (https://doi.org/10.1007/s11069-018-3336-6).

7. Kumar, Sunil, Sharma, M.L. and Das, Josodhir (2018) Consistent scaling laws for thrusting environment: A case study for Himalayan region. International Journal of Geotechnical Earthquake Engineering, 9, 46-62.

8. Nijhawan, Rahul, Josodhir Das, and Balasubrmanian Raman (2018) " A Hybrid CNN+Random Forest Approach to Delineate Debris Covered Glaciers using Deep Features" Journal of Indian Society of remote sensing, 46, 981-989.

9. Nijhawan, Rahul, Raman Balasubramanian, and Josodhir Das (2018) “Proposed Hybrid-Classifier Ensemble Algorithm to Map Snow Cover Area” Journal of Applied Remote Sensing, 12, 016003 (2018), doi: 10.1117/1.JRS.12.016003.

10. Nijhawan, Rahul, Raman Balasubramanian, and Josodhir Das. "A Hybrid approach for mapping snow cover extent using CNN-SVM-ANN-MLC and temporal satellite data”- (Under Review)

11. S. Borgohain, J. Das, A.K. Saraf, G. Singh & S.S. Baral (2017) Structural controls on topography and river morphodynamics in Upper Assam Valley, India, Geodinamica Acta, 29:1, 62-69, DOI: 10.1080/09853111.2017.1313090.

12. Kanika Sharma, A.K. Saraf, J. Das, S. S. Baral, S. Borgohain and G. Singh (2016) Mapping and Change Detection Study of Nepal-2015 Earthquake Induced Landslides, Indian Society of Earthquake Science, 5, 11p.

13. Susanta Borgohain, Josodhir Das, Arun Kumar Saraf, Gaurav Singh and Suman Sourav Baral (2016) Morphodynamic changes of Lohit River, NE India: GIS-based study. Current Science, 110 (9), 1810-1816, doi: 10.18520/cs/v110/i9/1810-1816.

14. Eirin Kar, Suman Sourav Baral, Arun Kumar Saraf, Josodhir Das, Gaurav Singh, Susanta Borgohain (2016) Remote Sensing and GIS Based Analysis of Geomorphic Evidences and Morphometry of Active Faults in Kachchh Area. Journal of the Indian Society of Remote Sensing, 44, 1-10, 2016. doi: 10.1007/s12524-016-0588-z.

15. Suman Sourav Baral, Kanika Sharma, Arun Kumar Saraf, Josodhir Das, Gaurav Singh, Susanta Borgohain, Eirin Kar (2016) Thermal anomaly from NOAA data for the Nepal earthquake, Current Science, 110 (2).

16. Zia, Mohammed, Kanika Sharma, A. K. Saraf, J. D. Das, Suman Baral and Mrinmoy Das, (2014), Ground deformational studies using ALOS-PALSAR data between 2007 and 2010 of the central Kutch area, Gujarat, India, Nat Hazards (2014) 71:1379–1388, DOI 10.1007/s11069-013-0947-9.

17. M. M Rout, J. D. Das, Kamal and R. Das. 2015 “Probabilistic seismic hazard assessment of NW and central Himalayas and the adjoining region”. Journal of Earth System Science, 124, 577-586.

18. Patil, N.S., Das, J. D., Kumar, A., Rout, M. M., Das, R. (2014) Probabilistic seismic hazard assessment of Himachal Pradesh and adjoining regions. Journal of Earth System Science, 123, 49-62.

19. Kataria, N.P., Shrikhande, M. and Das, J. D. (2013) Deterministic Seismic Hazard Analysis of Andaman and Nicobar Islands. Journal of Earthquake and Tsunami, 7, (19 pages) DOI: 10.1142/S1793431113500358.

20. A. K. Saraf, Rawat, V., Das, J.D, Zia, M. and Sharma, K., (2012) Satellite detection of thermal precursors of Yamnotri, Ravar and Dalbandin earthquakes, Natural Hazards, Vol. 61, No. 2, pp. 861-872 (DOI 10.1007/s11069-011-9922-5).

21. Saraf, A. K., Das, J. D., Ankita Biswas, Vineeta Rawat, Kanika Sharma & Yazdana Suzat (2012) SAR Interferometry in post-seismic ground deformations detection related with 2001 Bhuj Earthquake, India, International Journal of Remote Sensing, Vol. 33, No. 4, pp. 1296–1308 (DOI:10.1080/01431161.2010.549855).

22. Saraf, A. K., Vineeta Rawat, Das, J. D., Andrew Tronin, Swapnamita Choudhury and Kanika Sharma (2011) NOAA-AVHRR data displaying Thermal Line in the Himalayan foothills and its association with Frontal Thrust and Chamoli earthquake, Memoir of the Geological Society of India, No. 77, ISBN: 978-81-907636-2-2, pp. 195-204.

23. Saraf A. K., Mohammed Zia, Das, J. D., Kanika Sharma and Vineeta Rawat (2011) False Topographic Perception Phenomena observed with the satellite images of Moon's surface, International Journal of Remote Sensing, Volume 32, Issue 24, 2011, pp. 9869-9877 (DOI:10.1080/01431161.2010.550950).

24. A. K. Saraf, Bora, A. K., Das, J. D., Rawat, V., Sharma, K. and Jain S. K. (2010) Winter fog over the Indo-Gangetic Plains: mapping and modelling using remote sensing and GIS. Natural Hazards, DOI 10.1007/s11069-010-9660-0

25. Rawat, V., A. K. Saraf, Das, J. D., Sharma, K. and Shujat, Y. (2011) Anomalous land surface temperature and outgoing long-wave radiation observations prior to earthquakes in India and Romania. Natural Hazards, V-56, DOI 10.1007/s11069-011-9736-5.

26. Kanika Sharma, A. K. Saraf, J. D. Das*, Rawat, V., Yazdana Shujat, (2010), Comparative study of interpolated surfaces of different terrain, International Geoinformatics Research and Development Journal, V-1, Issue-3, 25-31.

27. Das, J. D., Yazdana Shujat, Saraf, A.K., Rawat, V., Sharma, K. (2011) Morphotectonic features and fault propagation folding of Bhuban Hills, NE India using Satellite image and DEM. Indian Society of Remote Sensing. 39 (1), 73-81. (DOI 10.1007/s12524-011-0066-6).

28. Das, J. D., Yazdana Shujat and Saraf, A.K. (2011) Spatial technologies in deriving the morphotectonic characteristics of tectonically active western Tripura region, Northeast India. Indian Society of Remote Sensing. 39 (2), 249-258**,** DOI 10.1007/s12524-011-0090-6.

29. Saraf, A. K**.**, Das, J. D. and Vineeta Rawat, (2010), Satellite Based Detection of Early Occurring and Co-Seismic landslides, International Geoinformatics Research and Development Journal, Vol. 1, No. 1, pp.1-12.

30. Das, J. D., Saraf, A.K. and Yazdana Shujat **(**2010**)** "Remote sensing technique in identifying geometry and geomorphic features of Indo-Burman frontal fold belt" International Journal of Remote Sensing. Vol. 31, No. 16, 4481–4503.

31. Saraf, A. K., Vineeta Rawat, Swapnamita Choudhury, Sudipta Dasgupta and **Josodhir Das** (2009) Advances in understanding of the mechanism for generation of earthquake thermal precursors detected by satellites, International Journal of Applied Earth Observation and Geoinformation, Vol. 11, pp. 373-379.

32. Arun K. Saraf, Vineeta Rawat, Priyanka Banerjee, Swapnamita Choudhury, Santosh K. Panda, Sudipta Dasgupta, **J. D. Das** (**2008**) Satellite detection of earthquake thermal infrared precursors in Iran. Nat Hazards, 47, 119-135.

33. Das, J. D., Dutta, T, and Saraf, A.K. (2007) **"**Remote sensing and GIS application in change detection of the Barak river channel, N.E. India. Journal Indian Society of Remote Sensing, 35, 309-320.

34. Das, J. D., Saraf, A.K. and Panda, S. K. (2007) "Satellite data in rapid analysis of Kashmir earthquake (October 2005) triggered landslide pattern and river water turbidity in and around epicentral region" International Journal of Remote Sensing, 28, 1835-1842.

35. Das, J. D. and Saraf, A.K. (2007) Remote Sensing in mapping of Brahmaputra/Jamuna River channel pattern and its relation to various landforms and tectonic environment. International Journal of Remote Sensing, 28, 3619-3631.

36. Panda, S. K., Choudhury, S., Saraf, A.K. and Das, J. D. (2007) "MODIS land surface temperature data detects thermal anomaly preceding 08 October 2005 Kashmir earthquake" International Journal of Remote Sensing. 28, 4587-4596.

37. **Das, J. D.** (2004) Active Tectonics of the Eastern Himalayan Foothills Region and adjoining Brahmaputra Basin based on satellite images. International Journal of Remote Sensing, 25, 549-557.

38. Harijan, N., Sen, A.K., Sarkar, S., **Das, J. D.**, and Kanungo, D.P. (2003) Geomorphotectonics Around The Sung Valley Carbonatite Complex, Shillong Plateau, Northeast India : A Remote Sensing And GIS Approach. Journal Geological Society of India. 62,103-109.

39. Chandra B, Thakkar, A., Basu, S., Kumar A., Shrikhande, M., **Das, J. D.,** Agrawal, P. and Bansal, M.K. (2002). *Strong Motion Records.* Supplement of Earthquake Spectra *2001 Bhuj India Earthquake Reconnaissance Report*; Section 2, Vol. 18, July 2002; pp53-66.

40. Saraf, A.K., **Das, J. D.** (1997) Neogene deformation of Siwaliks affected by the Delhi-Hardwar ridge as seen in satellite data, India. Current Science, V-73, 877-880.

41. Saraf, A.K., **Das, J. D.**, Agarwal, B. and Sundaram, R.M. (1996) False topography perception phenomena and its correction. International Journal of Remote Sensing, V-17, 3725-3733.

42. Chandrasekaran, A.R., **Das, J. D.** and Kumar M. (1996) Evaluation of earthquake parameters in Peninsular India and comparison of strong motion characteristics in Koyna and Himalayan region. Bulletin Indian Society of Earthquake Technology, V-34, 27-46.

43. **Das, J. D.**, Saraf, A.K. and Jain, A.K. (1996) A satellite picture reveals seismically potential tectonic structures in Northeast India. International Journal of Remote Sensing, V-17, 1433-1437.

44. **Das, J. D.**, Saraf, A.K. and Jain, A.K. (1995) Fault tectonics of the Shillong plateau and adjoining regions, Northeast India using remote sensing data. International Journal of Remote Sensing, V-16, 1633-1646.
45. Chandrasekaran, A.R. and **Das, J. D.** (1994) Analysis of strong motion accelerograms of North-east Indian earthquake of August 6, 1988. Journal of Institute of Engineers (India), Vol. 75, pp 1-11.
46. **Das, J.D.** (1994) Tectonic Geomorphology of Shillong Region. Indian Journal of Earth Sciences, Vol. 21, pp. 47-53.
47. **Das, J. D.** and Chandrasekaran, A.R. (1993) Determination of epicenter and comparison of some empirical formulae with observed data of acceleration from two events in Himalaya. Journal Geological Society of India, Vol. 41, pp. 417-430.
48. **Das, J. D.** (1992) The Assam basin: Tectonic relation to the surrounding structural features and Shillong plateau. Journal Geological Society of India, Vol. 39, pp. 303-311.
49. Chandrasekaran, A.R. and **Das, J. D.** (1992) Strong motion arrays in India and analysis of data from Shillong array. Current Science, Vol. 62, pp. 233-250.
50. Chandrasekaran, A.R. and **Das, J. D.** (1992) Analysis of strong motion accelerograms of Uttarkashi earthquake of October 20, 1991. Bulletin Indian Society of Earthquake Technology, Vol. 29, pp. 35-55.
51. Chandrasekaran, A.R. and **Das, J. D.** (1990) Strong Motion Arrays in India and Characteristics of Recent Recorded Events. Bulletin Indian Society of Earthquake Technology, Vol. 27, pp 1-66.

Scientific Paper Publications in Memoir International/ National Conference/Symposium/Workshop

1. Gupta, N., Kanungo, D. P., and Das, J. (2023). ”Multi-hazard, vulnerability and risk assessment in Bhagirathi valley, Uttarakhand India”. 6th World Landslide Forum in Florence, Italy, November 14-17, 2023 (Accepted)

2. Gupta, N., Kanungo, D. P., & Das, J. (2023). Co-seismic landslide susceptibility analysis for the Bhagirathi valley of Uttarakhand Himalayan region using machine learning algorithms based on Slope unit techniques (No. EGU23-6937). Copernicus Meetings.

3. Dwivedi, D.K., Saraf, A.K., Das, J. (2022) Analyzing Sequence of Events and Slope Failure: Case Study of Dhauliganga Flash Floods, Chamoli, Uttarakhand, India, American Geophysical Union (AGU).

4. Dwivedi, D.K., Saraf, A.K., Das, J. (2022) Dhauliganga, Uttarakhand, India Coalescent Natural Disaster: A Geo-informatics Perspective, 12th International Conference of the International Society for the Integrated Disaster Risk Management.

5. Gupta, N., Das, J., & Paul, J. X. (2022). Climate Change—Induced Natural Disaster: A Case Study of 2013 Kedarnath Disaster, Uttrakhand. In 5th World Congress on Disaster Management: Volume II. Taylor & Francis.

6. Gupta, N., Das, J. and Kanungo, D.P. (2022). Time series analysis of Bhatwari landslide triggerted by the 1991 Uttarkashi earthquake. 17th symposium on earthquake engineering, 609-618.

7. Hardeep, A. Bahuguna, K. Arun Saraf, and J. Das (2022) Co-seismic Deformation of Iran, 2021 Earthquake Using DInSAR Technique. Proc. 17th Symposium on Earthquake Engg. (V-4), 53-64.

8. C. Lallawmawma, M. L. Sharma, and J. Das (2022) Probabilistic Seismic Hazard Assessment of North East India. Proc. 17th Symposium on Earthquake Engg. (V-4), ,187-204

9. Tyagi, R. R. Nath, M. L. Sharma, and J. Das (2022) Seismically Induced Landslide Hazard Analyses for a Road Corridor in the Lower Himalayas. Proc. 17th Symposium on Earthquake Engg. (V-4), 363-378.

10. Dwivedi, D.K.; Saraf, A.K.; Das, J. (2022) 13th August 2021 Chenab River Coalescent Disaster: A Geo-informatics-based investigation, Proceedings of 17th Symposium on Earthquake Engineering (Vol. 3).

11. M. L. Sharma, S. C. Gupta, J. P. Narayan, J. Das, A. Sen, S. K. Jain, A. K. Jindal, Subhash Patel, Prajawal Tandekar, Avichal Rastogi, Rajeev Vishnoi, Atul Jain, Virendra Singh, and S. K. Saxena (2022) Local Seismicity Around Tehri Dam, Garhwal Himalaya. Proc. 17th Symposium on Earthquake Engg. (V-4), 683-995

12. Gupta, N., Das, J. & Paul, J. (2021) Climate change-induced Natural Disaster: A case study of 2013 Kedarnath disaster, Uttarakhand. 5th World Congress on Disaster Management, held at IIT Delhi on 24th -27th November 2021.

13. Josodhir Das, Madan Mohan Rout, Kamal (2020) PSHA of Himalayan region using zoning, zone-free and moment slip approaches. 17 World Conference on Earthquake Engineering, Sendai, Japan.

14. Nijhawan, Rahul, Raman Balasubramanian, and Josodhir Das (2017) "Meta-classifier approach with ANN-SVM-Rotation Forest and Random Forest for snow cover mapping" CVIP 2017, 9-12 September 2017, Noida.

15. Nijhawan, Rahul, Josodhir Das, and Balasubrmanian Raman (2016) "Impact of Snow Avalanche on Vegetation Area Using Remote Sensing Data." In Proceedings of the International Conference on Advances in Information Communication Technology & Computing, p. 20. ACM, 2016, August.

16. Nijhawan, R., Balasubramanian, R., and Das, J., (2016), Comparison of Support Vector Machine and Artificial Neural Network for Delineating Debris covered glaciers, International Conference on Smart Trends for Information Technology and Computer Communication.

17. Nijhawan, Rahul, Josodhir Das, and Balasubrmanian Raman (2016) " A random forest approach to delineate debris covered glaciers". National Symposium on Recent advances in remote sensing and GIS with special emphasis in mountain ecosystem" IIRS, Dehradun.

18. Gaurav Singh, Josodhir Das, Arun Kumar Saraf, Suman Sourav Baral, Susanta Borgohain, Kanika Sharma (2016) Delineation of major seismotectonic boundaries in Sub-Himalayan region using geospatial technologies. Himalayan-Karakorum-Tibet workshop.

19. Susanta Borgohain, Josodhir Das, Arun Kumar Saraf, Gaurav Singh and Suman Sourav Baral (2014) Morphometric and Morphodynamic analysis of Lohit river, Assam, India. National Seminar on Geology, Tectonics, Geo-Hazards & Natural Resources of North East India, 2014.

20. Gaurav Singh, Josodhir Das, Arun Kumar Saraf, Susanta Borgohain and Suman Sourav Baral (2014) Flood induced changes in Kedarnath valley, Uttarakhand, India. National Seminar on Geology, Tectonics, Geo-Hazards & Natural Resources of North East India, 2014.

21. **M. M Rout**, J. D. Das and Kamal (2014) "Probabilistic seismic hazard assessment of NW and central Himalayas using moment slip rate". Proceedings of 15th Symposium on Earthquake Engineering, 1, 122-130.

22. A.K. Srivastava, M.L. Sharma, D.K. Paul, J. Das and R. Jakka (2014) "Deep soil Characteristics in the vicinity of Himalayas". Proceedings of 15th Symposium on Earthquake Engineering, 1, 74-86.
23. **M. M Rout**, J. D. Das and Kamal (2014) Probabilistic seismic hazard assessment of NW Himalayas and its adjoining region using moment slip, Proceedings of Geohazards-2014 held in Nepal on Nov-2014.
24. Borgohain, S., Das, J., Saraf, A. K., Singh, G. and Baral, S. S., Morphometric and Morphodynamic Analysis of Lohit River, Assam, India. National Seminar on Geology, Tectonics, Geo-Hazards & Natural Resources of North East India. 10th Oct., 2014, Aizawl, Mizoram 796001.

25. Singh, G., Das, J., Saraf, A. K., Borgohain, S. and Baral, S. S., Flood Induced Changes in Kedarnath Valley. National Seminar on Geology, Tectonics, Geo-Hazards & Natural Resources of North East India. 10th Oct., 2014, Aizawl, Mizoram 796001.

26. **M. M Rout**, J. D. Das and Kamal (2013), "Delineation of seismic source zones and seismicity parameters for NW Himalaya". Proceedings of international conference on challenges in Disaster Mitigation and Management Strategies, Feb 15-17, 2013 at IIT Roorkee, India.

27. **M. M Rout**, J. D. Das and Kamal (2013) "Temporal and Spatial Variations of Seismicity Parameters for Northwest Himalaya".Geoscience and Remote Sensing Symposium (IGARSS), 2013 IEEE International,pp.3690-3693, 21-26 July 2013 doi: 10.1109/IGARSS.2013.6723631

28. **M. M Rout**, J. D. Das and Kamal (2013) "Probabilistic seismic hazard assessment of Central Himalaya and its adjoining region". Proceedings of International Journal of Landslide and Environment, 1 (1), 81-82.

29. **M. M Rout**, J. D. Das and Kamal (2013) "Sensitivity analysis in Probabilistic Seismic hazard assessment of NW Himalaya". INCOIS, Hyderabad. Proceedings of Joint International Workshop of ISPRS WG VIII/1 AND WG IV/4 on Geospatial data for disaster and Risk Reduction, 21-22 Nov 2013, INCOIS, Hyderabad, India.

30. **Rout, M. M**., Das, J. D. and Kamal. (2013), Probabilistic seismic hazard assessment of NW Himalaya and its adjoining region". *National Conference on Earth Sciences in India: Challenges and Emerging Trends (ESICET-2013),* 7-9 Nov 2013 at Department of Earth Sciences, IIT Roorkee.

31. **Rout, M. M**., Das, J. D. and Kamal. (2013), "Seismic hazard assessment of Himachal Pradesh, India". *Proceedings of National workshop on Status of Natural Hazards in Himachal Pradesh NHHP-2014*, 6-8 November 2014, Central University of Himachal Pradesh, India.

32. Das, J. D., Saraf , A.K. and Rawat, V. (2010) Concept of outgoing long-wave radiation and a possible earthquake precursor. 14 Symp. Earthquake Engineering, Roorkee, Dec 17-19, 2010.

33. Saraf, A. K., J. D. Das and V. Rawat, (2009), Can satellite detect early signatures of earthquake-induced landslides of Himalayas? Proceedings of 2nd International Conference on Geoinformation Technology for Natural Disaster Management and Rehabilitation, held between 30-31 January 2009 at, AIT, Bangkok, Thailand, p. 256.

34. Saraf, A. K.,V. Rawat, S. Choudhury and J. D. Das, (2009), Earthquake thermal precursors: Their detection and analysis, Proceedings of 2nd International Conference on Geoinformation Technology for Natural Disaster Management and Rehabilitation, held between 30-31 January 2009 at, AIT, Bangkok, Thailand, p. 256.

35. Saraf, A. K., V. Rawat, S. Choudhury, P. Banerjee, S. Dasgupta, and J.D. Das (2009), Remote Sensing Observations of Earthquake Thermal Precursors of India and Iran. Proceedings of 1st International Workshop on Validation of Earthquake precursors by Satellite and Terrestrial Observations (VESTO), Chiba University, Chiba Japan, March 26-28, 2009, p.17.

36. Saraf, A. K., S. Choudhury, V. Rawat, P. Banerjee, S. Dasgupta and J.D. Das, (2008), Detecting Earthquake Precursor: A Thermal Remote Sensing Approach. Map India-2008, held between 6-8 Feb. 2008, organised by GIS Development, NOIDA, India.

37. **Das, J. D.,** Choudhury, S., Saraf, A.K. and Panda, S. K. **(2006) E**arthquake hazard perception in seismically active northeastern part of india being affected by the analogous sumatran tectonic setting. 13th Symposium on Earthquake Engineering, Indian Institute of Technology Roorkee, December 18-20, 98-106.

38. **Das, J. D.,** Saraf, A.K. and Panda, S. K. **(2006)** Kashmir earthquake of 2005 generated landslides and water turbidity as detected by satellite data and the tectonic set up. 13th Symposium on Earthquake Engineering, Indian Institute of Technology Roorkee, December 18-20, 335-341.

39. Shrikhande, M., **Das, J. D.,** Kumar, A. and Basu, S. (2002) Strong motion records from NW Himalayan and NE Indian regions: A review. Proce. 12th Symp. Earthquake Engg., Dec. 16-18, 135-142.

40. **Das, J. D. (2002)** Tectonic status of Dauki fault of Northeast India. Proce. 12th Symp. Earthquake Engg., Dec. 16-18, 91-99.

41. Kumar, A., Basu, S., Thakkar, S.K., Shrikhande, M., Agarwal, P., **Das, J. D.** and Paul, D.K. (2001). Strong Motion Records of Bhuj Earthquake, International Conference on Seismic Hazard with Particular Reference to Bhuj Earthquake, New Delhi, Oct. 3-5, 2001

42. Shrikhande, M., Basu, S., Kumar, A., Chandra, B. and **Das, J. D.** (2001) *Analysis of Strong Motion data of Chamoli earthquake of March 29, 1999*. Workshop on Recent Earthquakes of Chamoli and Bhuj, May 24-26, University of Roorkee.

43. Chandra, B., Basu, S., Kumar, A., Shrikhande, M., **Das, J. D.** and Bansal, M.K. (2001) *Strong Motion Studies in Himalayas*. Research Highlights in Earth System Science, Focus on Seismicity (Vol-2), Editor : O.P. Varma, Indian Geological Congress. 343-356.

44. Shrikhande, M., Rai, D.C., Narayan, J. and **Das, J. D.** (2000) *The March 29, 1999 earthquake at Chamoli, India*. Proce. 12th World Conference in Earthquake Engineering, New Zealand.

45. Shrikhande, M., **Das, J. D.**, Bansal, M.K., Kumar, A., Basu, S. and Chandra, B. (2001) *Strong Motion characteristics of Uttarkashi earthquake of 1991 and its engineering significance*. Research Highlights in Earth System Science, Focus on Seismicity (Vol-2), Editor : O.P. Varma, Indian Geological Congress. 337-342.

46. Shrikhande, M., **Das, J. D.,** Bansal, M.K., Kumar, A., Basu. S. and Chadra, B. (1998) Analysis of strong motion records from Dharmsala Earthquake of April 26, 1986. Proce. 11th Symp. Earthquake Engg., Dec. 17-18, 281-285.

47. Paul, D.K. and **Das, J. D.** (1998) IS Code 1893: Design response spectra. Proce. 11th Symp. Earthquake Engg., Dec. 17-18, 245-254.

48. Chandra, B., Basu, S. ,Kumar, A., **Das, J. D.** and Bansal, M.K. (1996) Strong Motion Studies at Department of Earthquake Engineering, University of Roorkee. Proce. Design Practice in Earthquake Geotechnical Engineering, Roorkee, Sept. 26-27, pp. 411-427.

49. **Das, J. D.** (1997) Role of Remote Sensing in identifying earthquake hazard zones in part of Northeast India. Proce. Workshop on Earthquake Disaster Preparedness, October 13-14, University of Roorkee, 59-65.

50. Chandrasekaran, A.R. and **Das, J. D.** (1995) Strong motion records from Uttarkashi earthquake. Memoir Geological Society of India, No. 30, pp. 133-147.

51. Chandrasekaran, A.R. and **Das, J. D.** (1994) Evaluation of factor "Q" from strong motion records. Proceedings of 10 th Symposium on Earthquake Engineering, University of Roorkee, Roorkee. Nov., 1994, pp 105-113.

52. Chandrasekaran, A.R. and **Das, J. D.** (1992) Strong motion arrays in India and characteristics of recent recorded events. Memoir Geological Society of India, No. 23, pp. 81-122.

53. Chandrasekaran, A.R. and **Das, J. D.** (1991) Shape of spectra from strong motion data in North-East India. Proc. Fourth Int. Conference on Seismic Zonation, Aug. 25-29, 1991, Vol. II, Stanford University, California, USA, pp 743-750.

54. Chandrasekaran, A.R. and **Das, J. D.** (1990) Characteristics of Strong Motion Records of N.E. India". Proc. Ninth Symp. on Earthquake Engineering, Vol. 1, pp. 2-23 to 2-32.

55. **Das, J. D.** and Chandrasekaran, A.R. (1990) Epicentral evaluation from Strong Motion Data. Proc. National Symp. on Recent Advances in Seismology and Their Application, Bangalore, July, 1990.

56. Kumar, A. and **Das, J. D.**(1986) Strong Motion Array programme around Kangra and Shillong region. Proceedings 8th Symposium on Earthquake Engg, Vol. 1, pp 1-7.

Chapter in a book

Satellite detection of pre-earthquake thermal anomaly and sea water turbidity associated with the great Sumatra earthquake. Authors: A.K. Saraf, S. Chaudhury, S. Dasgupta and J. Das; The Indian Ocean Tsunami, ed. Ted S. Murthy, U. Aswathanarayana and N. Nirupama, 2007, Taylor and Francis Gr., London, Ch. 19, 215-225.

Award: Khosla Research award (1997)

M. Tech/ M.Sc. Thesis Supervision:

	Level	Title of Project/Thesis	Names of Students	Name of other supervisor (if any)	Year
1	M.Tech.	Study and interpretation of tectonic features in parts of Shillong Plateau, Meghalaya, India.	Netramani Harijan	Dr. A.K. Sen and Dr. S. Sarkar	2001
2	M.Tech.	Geo-morphotectonic and river pattern evaluation of Barak-Surma basin, NE India using Remote Sensing and GIS techniques	Tanmoy Dutta	Dr. A.K. Saraf	2006
3	M.Tech. or Equivalent	Remote Sensing and GIS for Fog Mapping and Forecasting in Northern India.	Ajoy Krishna Bohra	Dr. A.K. Saraf	2008
4	M.Tech. or Equivalent	Case Studies in Deterministic Seismic Hazard Assessment	Kataria Nitin Parasmal	Dr. M. Shrikhande	2008
5	M.Tech. or Equivalent	Remote Sensing and GIS based Morphotectonic Characteristics of Mohand Anticline, Siwalik Himalayas	Mrinmoy Kumar Das	Dr. A.K. Saraf	2008

	Level	Title of Project/Thesis	Names of Students	Name of other supervisor (if any)	Year
6	M.Tech.	SAR Interferometry Technique in Post-Seismic Deformation Study.	Ankita Biswas	Dr. A.K. Saraf	2009
7	M.Tech	Assessment of strong ground motion for shillong plateau region	Saikat Kabiraj	Dr. Ashwani Kumar	2011
8	M.Tech	Porbabilisitc seismic hazard assessment of Himachal Pradesh	Nilesh Shaligram Patil	Dr. Ashwani Kumar	2012

9	M.Tech	Spatial and temporal analysis of precipitation over India	Bhavya Maheshwari	Dr. A.K. Saraf	2012
10	M.Tech.	Seismic hazard assessment in Shillong region based on geospatial approach	Vikas Kumar Srivastava	Dr. A.K. Saraf	2014
11	M.Tech.	GIS approach in ground motion hazard estimation in Kangra region	Ekesh Chandra	Dr. A.K. Saraf	2014
12	M.Tech.	Probabilistic Seismic Hazard Assessement	Rishi Kumar	--------	2015
13	M.Tech.	Earthquake Occurrence and Spatial Analysis	Mohammad Amir	---------	2015
14	M.Tech.	Study of Kangra Re-entrant and associated morphotectonic features based on remote sensing and GIS	Hintendra Singh Parihar	Dr. A.K. Saraf	2015
15	M.Tech.	Identification of morphotectonic features of Dehradun region based on remote sensing and GIS	Pattapu Chaitanya	Dr. A.K. Saraf	2015
16	M.Tech.	Geoinformatics in identification of groundwater recharge structure in Bundelkhand region	Srishti Dixit	Dr. A.K. Saraf	2015
17	M.Tech.	Probabilistic seismic hazard assessment	Podugu Vinay Kumar	---------	2016
18	M.Tech.	Identification of geomorphology on Mars	Harsh Anurag	Dr. A.K. Saraf	2016
19	M.Tech.	Geoinformatics applications in fog studies and exploring possibilities of fog dispersion using air ionizing technique	Palash Choudhury	Dr. A.K. Saraf	2016
20	M.Tech.	Earthquake occurrence and deterministic seismic hazard assessment of Gujarat region	Jayvardhan Raj	---------	2017
21	M.Tech.	Earthquake damage analysis due to 1905 Kangra earthquake	Mohit Uniyal	---------	2017

22	M.Tech.	Nepal Earthquake of 2015 and hazard assessment	Pawan Singh Panwar	---------	2017
23	M.Tech.	Analytical framework for assessing the broad spectrum of man-made risk in India	Saha Bhola	Prof. D.K. Paul	2017
24	M.Tech.	Probabilistic seismic zoning for MMI amplitude	Shalu Chauhan	Dr. I. D. Gupta	2018
25	M.Tech.	Assessment of liquefaction potential	Abdur Rasheed Nawaz	Dr. R.S. Jakka	2018
26	M.Tech.	Seismic hazard assessment of Indo-Myanmar Sumatra Arc	Srijan Chaudhury		2018
27	M.Tech.	Temporal and spatial variations of b-value and its implications	Aman Sharma	Dr. S.C. Gupta	2018
28	M.Tech.	Damage scenario after strong earthquake	Abhay Singh		2018
29	M.Tech.	Scenario of earthquake and seismic hazard assessment of Kangra region	Vishwajeet J. Budruke		2018
30	M.Tech.	Probabilistic Seismic hazard assessment	Dhirendra Kumar		2018
31	M.Tech.	Probabilistic Seismic hazard assessment of Central Himalaya	Cheepulla Dhana Lakshmi		2018
32	M.Tech.	Earthquake occurrence and deterministic seismic hazard assessment of Uttarakhand region	Dhawal Samaria		2018
33	M.Tech.	CrowdVAS-NET: A deep CNN based framework to detect abnormal crowd motion behavior in videos for predicting crowd disaster.	Tanu Gupta	Dr. Sudip Roy	2019
34	M.Tech.	Landslide susceptibility mapping of Uttarakhand region	Gandamala Rakesh		2019
35	M.Tech.	Deterministic seismic hazard assessment of Uttarakhand region	Satyendra Kumar Bagri		2020
36	M.Tech.	Probabilistic seismic hazard assessment in western Himalaya	Akshay Dubey		2020
37	M.Tech.	Impact of Earthquake in Uttarkashi Region	Vitesh Chauhan	Dr. P.C. Ashwin	2020
38	M.Tech.	Landslide Susceptibility Assessment	Ankit Gupta		2021
39	M.Tech.	Risk-Targeted Seismic Hazard Assessment in Indian Himalayas	Ravi Shastri	Dr. Yogendra Singh	2022

40	M.Tech.	Likelihood of earthquake-induced landslide damming in Uttarakhand Himalayas	Akshat Vashistha	S. Srikrishnan	2023

M. Tech. Seminar : On Regular basis

Ph.D. Thesis – Self

Tectonics of the Shillong Plateau and adjoining regions in Northeast India using field and remotely sensed data.

Awarded : 1996

Supervisors:

Ph. D. Thesis Supervision:

Completed & Awarded

	Title of Thesis	Names of Students	Name of other supervisor (if any)	Remarks *
1	Application of thermal remote sensing in earthquake precursor study.	Vineeta Rawat	Prof. A.K. Saraf	2011
2	Geoinformatics in evaluating morphotectonics of Indo-Burman frontal fold belt	Yazdana Shujat	Prof. A.K. Saraf	2011
3	Probabilistic Seismic Hazard Assessment of NW and central Himalayan region	M.M. Rout	Dr. Kamal	2015
4	Remote Sensing Studies of Earthquake Induced Ground Deformations and Landslides	Kanika Sharma	Prof. A.K. Saraf	2017
5	Geoinformatics for Terrain Change Studies in Tectonically Active Kutch Region, India	Suman Kumar Boral	Prof. A.K. Saraf	2017

6	Morphology of Brahmaputra River in Upper Assam and Seismotectonic Relations	Susanta Borgohain	Prof. A.K. Saraf	2018
7	Machine Learning Models for Snow, Glacier Terrain and Hazard Mapping	Rahul Nijhawan	Prof. R. Balasubramanian	2018
8	Geospatial Technologies in Evaluating Morphotectonic Features in Sub-Himalayan Region, India	Gaurav Singh	Prof. A.K. Saraf	2019
9	Self Consistent Scaling Laws for the Himalaya	Sunil Kumar Saini	Prof. M.L. Sharma	2021

Ph. D. thesis in progress - Four

Abroad Visit : Participated in International UNESCO course on "Seismology, Tectonics and Seismic Risk Assessment" held from September 5 to October 4, 1989 in Germany.

Visited St. Petersburg (Russia) during July 12-18, 2010 under Long Term Programme (ILTP) of Cooperation in Science and Technology between India and Russia and carried out scientific work.

Review of Research Paper for the International Journal of Remote Sensing

1. Paper entitled **"**Remote Sensing and active tectonics of south India" By Rmasamy. For International Journal of Remote Sensing.
2. Paper entitled "Comparison between remotely sensed lineaments and geological structures in intensively cultivated hills (Monferrato and Langhe domains, NW Italy)" by Michele Morelli and Fabrizio Piana. For International Journal of Remote Sensing.
3. Paper entitled "Co-seismic surface ruptures produced by the 2005 Pakistan Mw7.6 earthquake in the Muzaffarabad area, revealed by QuickBird imagery data" by Lin, Aiming, Guo, Jianming. For International Journal of Remote Sensing.
4. Paper entitled "Determination of neotectonic features of the Karasu Basin (SE Turkey) and their relationship with the Quaternary volcanic activity using Landsat ETM+ imagery" by Kaan Sevki Kavak, Orhan Tatar, Halil Gursoy, John Piper, Fikret Kocbulut and B.Levent Mesci. For International Journal of Remote Sensing.
5. Paper entitled "Detection of local site conditions influencing earthquake shaking intensities in the Grevena area/northern Greece using remote sensing and GIS methods" (TRES-PAP-2011-0029) byTheilen-Willige, Barbara; Papadopoulou, Ioanna; Savvaidis, Paraskevas; Tziavos, Ilias. For International Journal of Remote Sensing.

Lab Development : Earthquake Rupture model Lab

Research Projects:

Executed a Research Project entitled "Earthquake hazard assessment of Indo-Burman tectonic belt based on spatial technologies (RS and GIS) as P.I. Cost of the project : Rs. 25.45 lakhs.

Executed a Research Project entitled "Development of North Indian winter fog - GIS forcasting model" As Co-PI. Cost of the poject : Rs. 6.45 lakhs

Executed a ILTP project on " Earthquake Precursor Research Using Satellite Thermal Infrared Data" As one of the team members, 2011

Completed a research Project entitled "SAR Interferometry in surface deformation studies in tectonically active parts of India" As Co-PI in April, 2014.

Development of ion based winter fog dispersion technique, CSIR, New Delhi (as PI) (in progress).

Delivered lectures and conducted practical for the Short term courses

- SERC School SEP-IV (April 19 to 24, 1999)
- Strong motion instruments: Processing and use of its data (Aug. 21 to 26, 2006)
- Operation and maintenance of Strong Motion Instruments (May 13 to 24, 2002)
- Delivered invited lectures in Earth Sciences.
- Delivered lecture in short term course on Estimation of site specific seismic design parameters (Oct 16-18, 2014)

Course

- Organized, coordinated a course on "GIS Concept and Applications" June 22 to 27, 2015 sponsored by NORSAR. Delivered lectures and conducted practicals for the course in continuing education center (June 22-27, 2015).
- Organized one day workshop on Geoinformatics in Earthquake Studies (November 28, 2015), QIP Center, IIT Roorkee
- Climate change, Hill area development and Landslides management at CoEDMM by NIDM, 5-7 Dec. 2019.

Field Work

Carried our field work in the central Nepal region from July 6 to 11, 2015 for studying the landslides after the 25 April 2015 7.8M earthquake.

Consultancy Reports: More than 300 and several in progress.

Technical Reports

1. Chandrasekaran, A.R. and **Das, J.D.**,"Strong Motion Array in Shillong Region, India". Report EQ. 88-11, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
2. Chandrasekaran, A.R., Prakash, V. and **Das, J.D.**, "Analysis of Strong Motion Accelerograms of Meghalaya Earthquake of Sept. 10, 1986." Report EQ.88-12R, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
3. Chandrasekaran, A.R. and **Das, J.D.**,"Analysis of Strong Motion Accelerograms of N.E. India Earthquake of May 18, 1987." Report EQ.89-23, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
4. Chandrasekaran, A.R. and **Das, J.D.**,"Analysis of Strong Motion Accelerograms of N.E. India Earthquake of February 6, 1988." Report EQ.89-24, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
5. Chandrasekaran, A.R. and **Das, J.D.**,"Analysis of Strong Motion Accelerograms of N.E. India Earthquake of August 6, 1988." Report EQ.89-25, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
6. Chandrasekaran, A.R. and **Das, J.D.**,"Analysis of Strong Motion Accelerograms of N.E. India Earthquake of January 10, 1990." Report EQ.94-01, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
7. Chandrasekaran, A.R. and **Das, J.D.**, "Analysis of Strong Motion Accelerograms of Uttarkashi Earthquake of October 20, 1991." Report EQ.91-10, Department of Earthquake Engg., University of Roorkee, Roorkee, India.
8. Chandrasekaran, A.R. and **Das, J.D.** (1993) Strong earthquake ground motion data in EQINFOS for India: Part 1B. Edited by M.D. Trifunac, M.I. Todorovski and V.W. Lee, Report No. CE 93-04, Roorkee, India and Los Angeles, California, March, 1993, pp 1-90.
9. ----------(2001) Strong Motion data from Kachchh earthquake of January 26, 2001.

MEMBERSHIP OF LEARNED SOCIETY

1. LIFE MEMBER- **Indian Society of Earthquake Technology**
2. LIFE MEMBER- **Indian Society of Remote Sensing**