


Faculty Profile

DEPARTMENT OF GEOGRAPHY

Personal Information	Dr. Somnath Rudra Associate Professor & Head Department of Geography School of Natural Resource Management Central University of Jharkhand Cheri-Manatu, Ranchi-835222 Mobile: +91-9832954440 Email: somnath.rudra@cuja.ac.in ; rudra347@rediffmail.com Google Scholar Id: https://scholar.google.com/citations?hl=en&user=qcHdL70AAAAJ	
Educational Qualification	Ph.D. in Geography (2015) from Visva-Bharati, Santiniketan, Birbhum, West Bengal M.A. in Geography (2004) from Visva-Bharati, Santiniketan, Birbhum, West Bengal B.A. in Geography (2002) from Visva-Bharati, Santiniketan, Birbhum, West Bengal	
Brief Introduction	Dr. Somnath Rudra is presently working as an Associate Professor of Geography at Central University of Jharkhand, Ranchi and is specialised in the field of Urban Geography, Regional Planning and Environment Management. Previously, he served as Associate Professor of Geography, at Vidyasagar University, Midnapore, West Bengal. He received his B.A., M.A. and Ph.D. degree from Visva-Bharati University, Santiniketan, West Bengal. With a profound academic career spanning over 16 years, he has effectively imparted his extensive knowledge and expertise to students at both the undergraduate and postgraduate levels. His research interest encompasses on various urban and environmental issues like urban green space management, urban suitable site selection mapping, groundwater contamination and related health issues and their mapping employing advanced geospatial techniques and modeling. Under his guidance, numerous scholars have been successfully awarded their doctoral and M.Phil. research in the field of urban and environment planning. Additionally, more than 75 students have completed their dissertations under his guidance at the post graduate level. Dr. Rudra's significant scholarly contributions are evidenced through the publication of 40 peer-reviewed research papers in esteemed national and international journals, including renowned publications by Elsevier and Springer. Furthermore, his scholarly impact extends to the realm of academic authorship, with the publication of 8 book chapters, adding to the wealth of literature in the field. Dr. Rudra serves as a distinguished reviewer for various research articles assigned by esteemed international journals such as <i>Geospatial Information Science, Environment, Development and Sustainability, Science of the Total Environment, Journal of Indian Society of Remote Sensing, Geocarto International, Environmental Monitoring and Assessment</i> etc.	
Title of the Ph.D. thesis:	Impact of Fluoride Contamination on Human Health in Purulia District: A Geographical Appraisal	
Professional Experience:	<ul style="list-style-type: none">• Associate Professor, Department of Geography, School of Natural Resource Management, Central University of Jharkhand, Cheri-Manatu, Ranchi-835222 (From 6th August, 2024 to -till date)	

	<ul style="list-style-type: none"> • Associate Professor, Department of Geography, Vidyasagar University, Midnapore, West Bengal (<i>From 18th July, 2022 to 5th August, 2024</i>) • Assistant Professor, Department of Geography, Vidyasagar University, Midnapore, West Bengal (<i>From 11th Aug, 2016 to -17th July, 2022</i>) • Assistant Professor, Department of Geography, Manbhum Mahavidyalaya, Manbazar, Purulia, West Bengal (<i>From 18th July 2008 to 10th Aug 2016</i>)
Administrative Experience	<ul style="list-style-type: none"> • Head, Department of Geography, School of Natural Resource Management, Central University of Jharkhand • PG BOS Member, Department of Geography, Vidyasagar University • UG BOS Member, Department of Geography, Vidyasagar University • PG BOS Member, Department of Geography, Haldia Govt. College, Haldia, Purba Medinipur, West Bengal • Head, Department of Geography, Manbhum Mahavidyalaya, Manbazar, Purulia, West Bengal
Honour and Awards	<p>Research and Publication Award, Vidyasagar University, 2022 Research and Publication Award, Vidyasagar University, 2021 UGC, Junior Research Fellow (JRF), 2006 Ranked 1st Class Second at MA in Geography, Visva-Bharati, 2004 Ranked 1st Class First at BA (Honours) in Geography, Visva-Bharati, 2022</p>
Courses Taught	<ul style="list-style-type: none"> • Population Geography • Urban Planning • Regional Development • Environmental Management • Climatology • Physical Geography • Geographical Thought • Tourism Geography • Surveying Techniques • Statistical Techniques in Geography • Geoinformatics • Research Methodology
Research Interest	<ul style="list-style-type: none"> • Urban and Regional Planning, • Environmental Issues, • Groundwater, • Tourism Geography
Ph.D. Supervision	<p>Awarded: 03</p> <ol style="list-style-type: none"> 1. Suraj Kumar Mallick: Urban built-up area footprint and its impacts on environment and human adaptability on Siliguri, West Bengal (2018-2022) 2. Ulfat Khan: Fluoride contamination in groundwater and impact on human health: a study in Simlapal block, Bankura district, West Bengal (2018-2022) 3. Chumki Shikary: Trend and Pattern of Urbanisation in Purulia District, West Bengal (2019-2023)

	<p>Submitted: 01</p> <ol style="list-style-type: none"> Biswajit Maity: Landscape dynamics in Asansol Urban Agglomeration: an ecological approach (2019-2024) <p>Ongoing: 03</p> <ol style="list-style-type: none"> Asik Ahmed: Changing patterns of Wetland Ecosystem Services and their Management in Murshidabad District, West Bengal (2023) Samu Lohar: Sustainable Rural Tourism Development in Jangalmahal Region, West Bengal (2024) Sujay Saha: Rural urban interaction and urban growth of Berhampur City, Murshidabad district, West Bengal (2024)
<p>M.Phil. Supervision</p>	<p>Awarded: 01</p> <ol style="list-style-type: none"> Pritiranjana Das: Analysis of Urban Growth using Geospatial and Statistical Techniques on Midnapore, West Bengal, India (2019-2022)
<p>Publication:</p>	
<p>Articles in Journals</p>	<ol style="list-style-type: none"> Mallick, S.K., Sahu, N., Das, P., Maity, B., Varun, A., Kumar, A., Keswarwani, R., Saini, A., Rudra, S. (2024). Impact of urban growth in Delhi and Its Peri-urban environment on urban heat exposure. <i>Urban Climate</i>, Vol-56, https://doi.org/10.1016/j.uclim.2024.102010 (Elsevier; ISSN: 2212-0955; IF: 6.4) Shikary, C., Rudra, S. (2023). Assessment of urban-to-urban interaction and its impact on urban development: A study on a backward district of Eastern India. <i>Environment, Development and Sustainability</i>, https://doi.org/10.1007/s10668-023-03314-w (Springer; ISSN: 1573-2975/1387-585X; IF: 4.9) Shikary, C., Rudra, S. (2023). Identifying obstacles and opportunities of urbanization in the district primate town of Purulia, West Bengal. <i>GeoJournal</i>, 88. https://doi.org/10.1007/s10708-023-10878-7 (Springer; ISSN: 1572-9893; IF: 2.7). Mallick, S.K. & Rudra, S., Maity, B. (2023). Unplanned urban built-up growth creates problem in human adaptability: Evidence from a growing up city in eastern Himalayan foothills. <i>Applied Geography</i>. 150, 102842. https://doi.org/10.1016/j.apgeog.2022.102842 (Elsevier; ISSN: 0143-6228; IF: 4.9) Garai, U., & Rudra, S. (2022). Agricultural land suitability analysis of Bankura district of West Bengal using AHP and GIS techniques. <i>Agriculture Research Journal</i>. 59(6), 1047-1058. https://doi.org/10.5958/2395-146X.2022.00147.8 (ISSN: 2395-1435 (Print), 2395-146X (Online), Scopus Indexed) Mallick, S.K. & Rudra, S., Maity, B. (2022). Land suitability assessment for urban built-up development of a city in the Eastern Himalayan foothills: A study towards urban sustainability. <i>Environment, Development and Sustainability</i>, https://doi.org/10.1007/s10668-022-02857-8 (Springer; ISSN: 1573-2975/1387-585X; IF: 4.9)

7. Shikary, C., **Rudra, S.** (2022). Urban growth Prediction for Sustainable Urban Management Using Markov Chain Model: A Study on Purulia Municipality, West Bengal, India. *Journal of the Indian Society of Remote Sensing*. 50, 2229–2244. <https://doi.org/10.1007/s12524-022-01596-7> (**Springer**; ISSN: 0974-3006/ 0255-660X; **IF: 2.5**)
8. Maity, B., Mallick, S.K., Das, P., **Rudra, S.** (2022). Comparative analysis of Groundwater Potentiality Zone using Fuzzy-AHP, Frequency Ratio and Bayesian Weights of Evidence Methods. *Applied Water Science*, 12: 63, 1-16. <https://doi.org/10.1007/s13201-022-01591-w>, (**Springer**; ISSN: 2190-5495; **IF: 5.5**)
9. Mallick, S.K., **Rudra, S.** (2021). Land use changes and its impact on biophysical environment: Study on a river bank. *The Egyptian Journal of Remote Sensing and Space Sciences*, 24 (3/2), 1037-1049, <https://doi.org/10.1016/j.ejrs.2021.11.002> (**Elsevier**; ISSN: 1110-9823; **IF: 6.4**).
10. Mallick, S.K., Das, P., Maity, B., **Rudra, S.**, Pramanik, M., Pradhan, B., & Sahana, M. (2021). Understanding future urban growth, urban resilience and sustainable development of small cities using prediction-adaptation-resilience (PAR) approach. *Sustainable cities and Society*, 74, 103196. <https://doi.org/10.1016/j.scs.2021.103196> (**Elsevier**; ISSN: 2210-6707; **IF: 11.7**)
11. Mallick, S.K., **Rudra, S.** (2021). Livelihood and Environmental Sustainability Analysis using Aquaculture based Indicators: A Study on Selected CD blocks of Purba Medinipur District, West Bengal. *Indian Journal of Geography and Environment*, 17-18, 14-24 (ISSN:0972-7388)
12. Maity, B., Mallick, S.K. & **Rudra, S.** (2021). Integration of urban expansion with hybrid road transport network development within Haldia Municipality, West Bengal. *The Egyptian Journal of Remote Sensing and Space Sciences*, 24, 471-483, <https://doi.org/10.1016/j.ejrs.2020.10.005> (**Elsevier**; ISSN: 1110-9823; **IF: 6.4**).
13. Maity, B., Mallick, S.K. & **Rudra, S.** (2020) Spatiotemporal dynamics of urban landscape in Asansol Municipal Corporation, West Bengal, India: A geospatial analysis. *GeoJournal*, 87, 1619-1637. <https://doi.org/10.1007/s10708-020-10315-z> (**Springer**; ISSN: 1572-9893; **IF: 2.7**).
14. Shikary, C., & **Rudra, S.** (2020). Measuring Urban Land Use Change and Sprawl Using Geospatial Techniques: A Study on Purulia Municipality, West Bengal, India. *Journal of the Indian Society of Remote Sensing*. 49, 433-448, <https://doi.org/10.1007/s12524-020-01212-6> (**Springer**; ISSN: 0255-660X / 0974-3006; **IF: 2.5**)
15. Mallick, S.K., **Rudra, S.** & Samanta, R. (2020). Sustainable Ecotourism Development using SWOT and QSPM Approach: A study on Rameswaram, Tamil Nadu. *International Journal of Geoheritage and Parks*, 8(3), 185-193.

<https://doi.org/10.1016/j.ijgeop.2020.06.001> (*Elsevier*; ISSN: ISSN: 2577-4441 e-ISSN: 2577-445X)

16. **Rudra, S.** (2019). Spatiotemporal analysis of trend and pattern of urbanisation in Paschim Medinipur district, West Bengal. *Thematics Journal of Geography*, 8(4), 549-561. (ISSN-2277-2995)
17. **Rudra, S.** and Khan, U. (2019). Geochemical evaluation of groundwater quality with respect to fluoride contamination at Simlapal Block of Bankura District, West Bengal. *Thematics Journal of Geography*, 8(4), 527-539. (ISSN-2277-2995)
18. **Rudra, S.** (2019). Measuring Development Disparities of Bankura District, West Bengal, India: A Synergistic Approach of Range Equalisation and AHP Model. *Geographical Review of India*, 81(3), 217-235. (ISSN: 0375-6386)
19. Saha, P. & **Rudra, S.** (2019). Analysis of Agricultural Productivity and Development Status of Agriculture: A Blockwise Study of Birbhum District. *Journal of Emerging Technologies and Innovative Research*, 6(2), 509-523. (e-ISSN: 2349-5162)
20. Shikary, C. & **Rudra, S.** (2019). Trends and Pattern of Urbanisation in Purulia district: A Spatiotemporal Analysis. *International Journal of Research and Analytical Review*, 6(1), 819-829. (e-ISSN: 2348-1269)
21. **Rudra, S.** and Khan, U. (2018) Fluoride Contamination of Ground Water at Jamda Village of Bankura District, West Bengal: A Geographical Analysis. *Indian Journal of Geography and Environment*, 15-16, 107-114 (ISSN:0972-7388)
22. Mallick, S. and **Rudra, S.** (2018) Spatiotemporal change analysis of land use and land cover by geospatial techniques: a study on Ganktok Municipality, Sikkim. *Eastern Geographer*, 14(2), 123-132. (ISSN: 0973-7642)
23. Saha, P. and **Rudra, S.** (2017) Analysis of Crop diversification and Irrigation Intensity: A Study of Birbhum District. *Geographical Review of India*, 79(4), 382-396. (ISSN: 0375-6386)
24. **Rudra, S.** (2016). Nature and Extent of Fluoride Contamination and its Impact on Human Health and Society: A Case Study of Purulia District, West Bengal. *Indian Cartographer*, 36(2),110-122. (ISSN-0927-8392)
25. **Rudra, S.** (2015) Assessment of Healthcare Status of Thanjavur District, Tamil Nadu: A Medical Geographical Approach. *IJRSET*, 4(10), 9768-9774. (ISSN: 2319-8753(Online) / 2347-6710 (Print))
26. **Rudra, S.** (2014) Nature and Extent of Impact of Fluoride on Human Health: A Geographical Analysis. *Journal of Interacademia*, 18(3), 390-398. (ISSN: 0971-9016)

	<p>27. Rudra, S. & Ghosh, D. (2014) Problems Associated with the Socio-economic Conditions of Population in a Fluoride Affected Village: A Search for Alternative Measures for their Alleviation. <i>Eastern Geographer</i>, 10(1), 361-370. (ISSN:0973-7642)</p> <p>28. Rudra, S. (2013) Fluoride Contamination in Drinking Water in the Rural Habitation: A Major Challenge. <i>Practising Geographers</i>, 17(1), 264-272. (ISSN:0975-3850)</p> <p>29. Rudra, S. (2012) Fluoride Contamination of Ground Water: A Geographical Analysis of Purulia-I Block of Purulia district, West Bengal, India. <i>Geo-Analyst</i>, 2(1), 50-55. (ISSN:2249-2909)</p>
<p>Chapter in Edited Books</p>	<ol style="list-style-type: none"> 1. Mallick S.K., Rudra S., Maity B., Das P. (2023). GIS-based groundwater recharge potentiality analysis using frequency ratio and weights of evidence models. In Shit P.K. et al. (eds.), <i>Case Studies in Geospatial Applications to Groundwater Resources</i>. Elsevier, 91-108. https://doi.org/10.1016/B978-0-323-99963-2.00016-X (ISBN: 978-0-323-99963-2) 2. Mallick, S.K., and Rudra, S. (2021). Analysis of Groundwater Potentiality Zones of Siliguri Urban Agglomeration Using GIS-Based Fuzzy-AHP Approach. In P. K. Shit et al. (eds.), <i>Groundwater and Society</i>. Springer Hydrology. 141-160. https://doi.org/10.1007/978-3-030-64136-8_7 (eBook ISBN: 978-3-030-64136-8, Hardcover ISBN: 978-3-030-64135-1) 3. Rudra, S. (2021). Assessing Contamination of Groundwater with Fluoride and Human Health Impact. In: Adhikary P.P., Shit P.K., Santra P., Bhunia G.S., Tiwari A.K., Chaudhary B.S. (Eds.), <i>Geostatistics and Geospatial Technologies for Groundwater Resources in India</i>. pp. 299-322. Springer Hydrogeology. Springer, Cham. https://doi.org/10.1007/978-3-030-62397-5_15 (ISBN: 978-3-030-62396-8) 4. Mallick S.K., Maity B., Rudra S. (2021). Aquaculture-Based Water Quality Assessment and Risk Remediation along the Rasulpur River Belt, West Bengal. In: Shit P.K., Adhikary P.P., Sengupta D. (eds) <i>Spatial Modeling and Assessment of Environmental Contaminants. Environmental Challenges and Solutions</i>. Springer, Cham. 213-231. https://doi.org/10.1007/978-3-030-63422-3_13 (ISBN 978-3-030-63422-3)
<p>Paper Presentation at Seminar Conferences</p>	<p><u>Paper Presented in Internation Conferences:</u></p> <ol style="list-style-type: none"> 1. Rudra, S. & Maity, B. (2024). “Application of DEMATEL model for urban ecological sensitivity assessment”. <i>International conference on Emerging Issues in Environment, livelihood and Development: A Future Road Map Towards Sustainable Earth</i>. 26-28th January, Department of Geography & Applied Geography, University of North Bengal. 2. Rudra, S. & Shikary, C. (2023). “Exploring the role of census towns for rural development of Purulia district using statistical approach”. <i>International seminar on</i>

Recent Advancement on Geographical Studies: A Multidimensional Outlook. 1-2nd September, Department of Geography, Rampurhat College, Rampurhat, Birbhum.

3. **Rudra, S.** & Khan, U. (2022). "Fluoride toxicity and health risk assessment from some parts of Rarh Bengal, India." *IGU Conference on 'Sustainability, Future Earth and Humanities: Opportunities and Challenges'*. 24-25th Nov, 2022. Department of Geography, Central University of Haryana.
4. **Rudra, S.** (2020). "Access to Clean Water and Sanitation: Issues and Challenges." *International Webinar of "Sustainable Development on Indian Subcontinent"*, 12-13th August. Department of Geography, Asannagar College.
5. **Rudra, S.** & Maity, B. (2020). "Change monitoring of urban built-up area using geospatial techniques: A study on Asansol urban area." *International Conference on Agriculture, Food, Water, Biodiversity*. 6-8th March. Department of Geography, Burdwan University.
6. **Rudra, S.** & Mallick SK (2020). "Sustainable ecotourism development using SWOT and QSPM Approach: A study on Rameshwaram, Tamil Nadu." *International Conference on Smart Tourism & Travel Trade*. 10th Jan. Department of Travel and Tourism Management, Midnapore College.
7. **Rudra, S.** (2019). "Urban sprawl and its impact on land-use land cover dynamics in Midnapore town, West Bengal." *International Conference on Society and Sustainability: An Interdisciplinary Approach*. 12th-13th Jan. Department of Geography, Vivekananda College, Kolkata.
8. Mallick SK. & **Rudra, S.** (2018). "Impact of landscape transformation on livelihood and environment: A study on selected CD blocks of Purba Medinipur District, West Bengal, India." *International Symposium on "Recent Trends in Agriculture, Biodiversity and Social Sustainability"*. 30th Sept-1st Oct. Botanical Survey of India, CRC, Allahabad.
9. **Rudra, S.** (2017). "Groundwater Degradation, Human Health and Society Interaction: A Study on Purulia District." *3rd International Seminar on Earth system Processes and Interruptions: Issues and Challenges*. 19-20th April. The University of Gourbanga, Malda, West Bengal.
10. **Rudra, S.** (2017). "Groundwater Contamination: A Menace to the People of Purulia District, West Bengal." *2nd International Seminar on Environment and Society: Historical Perspectives and Contextual Reality*. 28th March. Department of Geography, The University of Burdwan.
11. **Rudra, S.** (2016). "Nature and Extent of Fluoride Contamination and its Impact on Human Health and Society: A Case Study of Purulia District, West Bengal." *INCA International Congress on Cartography for Analysis and Management of Climate Change*. **9-11th November**. Department of Geography, Visva-Bharati.

Paper Presented in International Conferences:

1. **Rudra, S.** & Mallick, S.K. (2023). “The urban built-up land suitability analysis using MCDM techniques and different geo-statistical models: a study on Siliguri Municipal Corporation area”. *5th Regional Science and Technology Congress, 2022-2023*. 13th - 14th January, Raja NL Khan Women College, Midnapore.
2. **Rudra, S.** & Maity, B. (2022). “Water Quality Assessment of the Newly Emerged Aquaculture Areas of Purba Medinipur district, West Bengal.” *National Conference on "Geospatial Intelligence for Environmental Hazards and Disaster Management"*. 5-6th March. PG Department of Geography, Raja NL Khan Women College, Midnapore.
3. **Rudra S.** & Khan, U. (2020). “Groundwater quality assessment with respect to fluoride contamination: A study at Simlupal Block of Bankura District, West Bengal”. *National Seminar on Population, Development and Environment*. 8-9th Jan. Department of Geography, Midnapore College.
4. **Rudra. S.** (2016). “Sustainable Development of Tourism: A Case Study of Digha, West Bengal.” *Food Security & Urbanisation Equilibrium: A Sustainable Man-System Approach*. 22nd – 23rd Nov. Department of Geography, Birbhum Mahavidyalaya, Suri.
5. **Rudra. S.** (2016). Socio-economic Problems Associated with the Fluoride Contamination in Drinking Water: A Search for Alternative Measures. *Environmental Degradation and Disasters - A Vision Plan for Sustainable Development*. 25-26th August. Department of Geography, Cooch Behar College.
6. **Rudra, S.** (2016). Basic Hindrance of Teaching Modern Geography in the Rural Colleges. *Teaching of Modern Geography*. 16th January. Dept of Geography, Visva-Bharati.

Professional Development Courses

Sl. No.	Name of the Course	Organisation	Duration
1	UGC Sponsored Orientation Programme	ASC, The University of Burdwan	18 th Feb to 16 th March 2012 (4 weeks)
2	UGC Sponsored Refresher Course in ‘Disaster Management’	ASC, University of Calcutta	24 th Feb to 15 th March 2014 (3 weeks)
3	UGC Sponsored Refresher Course in ‘Earth Science and Natural Management’	HRDC, North-East Hill University	12 th Nov to 2 nd Dec 2018 (3 weeks)
4	UGC Sponsored Refresher Course	HRDC, University of Calcutta	10 th January to 24 th January 2022 (2 weeks)
4	Online course on “Remote Sensing & GIS Technology and Applications for University Teachers & Government Officials”	Indian Institute of Remote Sensing (IIRS), ISRO Dehradun	13 th June to 01 st July 2020 (3 weeks)
5	Online course on “Application of Geoinformatics in Ecological Studies”	IIRS outreach network centre, Vidyasagar University, Medinipur, West Bengal.	13 th July to 24 th July 2020 (2 weeks)

6	Online course on “ <i>Geospatial Inputs for Enabling Master Plan Formulation</i> ”	IIRS outreach network centre, Vidyasagar University, Medinipur, West Bengal.	27 th July to 31 st July 2020 (1 weeks)
7	Online course on “ <i>Remote Sensing and Digital Image Analysis</i> ”	Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun	17 th Aug to 11 th Sep 2020 (4 weeks)
8	Online course on “ <i>Global Navigation Satellite System</i> ”	Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun	14 th Sep to 25 th Sep 2020 (2 weeks)
9	UGC Sponsored Refresher Course in ‘ <i>Geography</i> ’	HRDC, University of Calcutta	10 th Jan to 24 th Jan 2022 (2 weeks)
10	Faculty Development Program on “ <i>Online Academic Events and Examination Management</i> ”	Computer Centre in collaboration with IQAC, Vidyasagar University	10 th Feb to 16 th Feb 2022 (1 week)
11	“Understanding Python and its Application in Research & Development”	A.K. Dasgupta Centre for Planning and Development, Visva-Bharati	27 th September - 10 th October, 2023 (2 weeks, Online)
12	Statistical Methods in Research using R	A.K. Dasgupta Centre for Planning and Development, Visva-Bharati	26 th February-10 th March, 2024 (2 weeks, Online)
Organisation of Seminar/ Workshop/Conferences		<ol style="list-style-type: none"> 1. Organised workshop at Vidyasagar University as Organising Secretary in 2024. 2. Member of the organising committee for SERB (Science and Engineering Research Board) sponsored 10 days national workshop on “Essential Laboratory and Field Techniques in Geoscience” in 2016 at Vidyasagar University. 3. Organised National Seminar on “Water Resource Management” at Manbhum Mahavidyalaya in 2012 as Organising Secretary. 	

Updated on 27th August, 2024