



email id: abira6520@bzsmcollege.org

Dr. Abira Dutta Roy graduated from Banaras Hindu University and completed her post graduation from Delhi School of Economics, University of Delhi. She was awarded her M.Phil and Doctoral degree from Jawaharlal Nehru University, New Delhi in 2013. She is currently an Assistant Professor at the Department of Geography, Bankura Zilla Saradamani Mahila Mahavidyalaya.

Area of Research

Water resources management, Hydro-climatology modelling using physically distributed models, Irrigation water management, Climate Variability and Climate Change, Land use prediction modelling, glacial dynamics, Remote Sensing and Geographical Information Systems (GIS)

Past Experience

Assistant Professor (2016-2017) at Department of Geography, School of Sciences, Adamas University.

Research Associate (2014-2016) at Jawaharlal Nehru University in a DST Funded Mega Project entitled “Himalayan Cryosphere: Science and Society” under IUCCCR program

Senior Program Manager, Environment (2013-2014) in Innovative Financial Advisors Pvt. Ltd, New Delhi.

Senior Team Member, Research Advocacy Fund Raising and Program (2013-2014) in Pragna NGO, Gurgaon.

Fulltime contractual lecturer of Geography (2008-2010) at Michael Madhusudan Memorial College, Burdwan University, West Bengal.

Research Fellow (2007-2008) in a DST sponsored Project entitled “Assessment of Agro-Biodiversity and Impact on Livelihood of The Local Community: A Case Study of Spatial database Integration” at University of Delhi.

Research Fellow (2006-2007) in a DST sponsored Project entitled “Development of Socio-Economic Profile for Integrated Development and Ecological modeling of Selected Micro Watersheds in Uttarakhand” at Jawaharlal Nehru University.

List of Publications

Abira Dutta Roy, Manoj Kumar, 2010, “Solid Waste Management and Identification of Landfill Sites (A case study of Durgapur Town, West Bengal)” in J. Singh & A.L. Ramanathan (Eds.), Solid Waste Management, Present and Future Challenges, (pp. 222-230). I.K. International Publishing House Pvt. Ltd., New Delhi, ISBN 978-93-80026-42-8.

Abira Dutta Roy, 2010, Environmental Degradation and Poverty: The Factual Link in India, in Challenge, Responsibility, (Proceedings from) Vision: We are the Youth in a Globalizing

World, (pp. 134-147), Beijing Forum Secretariat, Peking University.

Abira Dutta Roy, 2013, Trend detection in Temperature and Rainfall over Rajasthan during the Last Century, Asian journal of Research in social sciences and humanities, India, Volume 5, No.2, February 2015, pp 12-26. (ISSN 2249-7315)

Abira Dutta Roy and S.Sreekesh, 2014, "Dynamics of Overland Flow under Changing Cropping Pattern: A Spatial Modeling Approach in Penganga Sub-watershed" in N. Janardhan Raju (Eds.) Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment : Challenges, Processes and Strategies, (pp. 388-392). Capital Publishing Company, New Delhi, ISBN 978-93-8189125-4.

Abira Dutta Roy, 2013, "Assessment of Impacts of Land Use Changes on the Hydrological Regime of Buldana District, Maharashtra" in Farasat Ali Siddiqui (Eds.), Population, Resource, Development, Genuine Publications and Media Pvt. Ltd, New Delhi, ISBN 978-93-89965-48-3.

Abira Dutta Roy, 2015 (March Issue), "Temperature and Rainfall Dynamics in Penganga SubWatershed, Maharashtra", Indian Journal of Spatial Sciences. Vol 6, No.1, Summer Issue, (pp. 56-63), ISSN:2249-3921

Abira Dutta Roy, Munni Debnath Parial, 2019 (March), "Estimating the relationship between land use land cover and land surface Temperature: A case study of Kolkata Metropolitan Area" ISSN:2278-8670, International Journal Of Integrated Research And Development (UGC enlisted journal No.41601), Vol 2.

Abira Dutta Roy, Munni Debnath Parial and Kasturi Mukherjee. 2020 "Synergy Between Air Quality, Various Urban Forms, and Land Surface Temperature: A Case Study of Kolkata Metropolitan Area" in)" in Augustine Chioma Affam & Ezerie Henry Ezech (Eds.), Handbook of Research on Resource Management for Pollution and Waste Treatment, (pp. 576-609), **IGI Global**, Hershey PA, USA, ISBN 9781799803690 (h/c) | ISBN 9781799803713 (eISBN) ,DOI: 10.4018/978-1-7998-0369-0.ch024

Mou Dey, Dipanwita Dutta, **Abira Dutta Roy**, 2021 "Spatiotemporal Extent of Agricultural Drought Over Western Part of West Bengal". In: Rukhsana, Haldar, A., Alam, A., Satpati, L. (eds) Habitat, Ecology and Ekistics. Advances in Asian Human-Environmental Research. **Springer**, Cham. https://doi.org/10.1007/978-3-030-49115-4_14

K.C. Lalmalsawmzauva, Uday Chatterjee, **Abira Dutta Roy**, Bappaditya Koley, Gouri Sankar Bhunia, Pravat Kumar Shit, 2021, Rainwater harvesting potential in Nagaland, India, in Gouri Sankar Bhunia, Uday Chatterjee, Anil Kashyap, Pravat Kumar Shit, (eds) Modern Cartography Series, **Academic Press/ Elsevier**, Volume 10, , Pages 641-657, ISSN 1363-0814, ISBN 9780128238950, <https://doi.org/10.1016/B978-0-12-823895-0.00018-X>.

Mukherjee, Kasturi, Nandita Deb, **Abira Dutta Roy**, and Pratik Dash. 2022 "Impact of Noise Pollution on Human Health in Barasat Urban Area, West Bengal." In Uday Chatterjee, Arindam Biswas, Jenia Mukherjee, Dinabandhu Mahata (eds) Sustainable Urbanism in Developing Countries, pp. 375-393. **CRC Press/ Taylor and Francis**., DOI: 10.1201/9781003131922-25

Karmakar, Jayashree., **Abira Dutta Roy**. 2022 "Appraisal of the Variation of TSS and Turbidity on Fish Production in Mahanadi Delta Region Post Fani and Phailin Cyclones". In: Bhunia, G.S., Chatterjee, Uday., Lalmalsawmzauva, K., Shit, P.K. (eds) Anthropogeomorphology. Geography of the Physical Environment. **Springer**, Cham. https://doi.org/10.1007/978-3-030-77572-8_10

Abira Dutta Roy, Gorai, Joya., Dey, Rinku., Pal, Sujata., Mandal, Sunipa. 2022. Integration of Field Investigation and Geoinformatics for Urban Environmental Quality Appraisal of Bankura Town, West Bengal, India. In: Al-Quraishi, A.M.F., Mustafa, Y.T., Negm, A.M. (eds) Environmental

Degradation in Asia. Earth and Environmental Sciences Library. **Springer**, Cham. https://doi.org/10.1007/978-3-031-12112-8_17.

Uday Chatterjee, Angela Oyilieze Akanwa, Suresh Kumar, Sudhir Kumar Singh, **Abira Dutta Roy**. 2022. Eds Ecological Footprints of Climate Change Adaptive Approaches and Sustainability, Springer, Cham. https://doi.org/10.1007/978-3-031-15501-7_1

Abira Dutta Roy, Santanu Mandal 2022. Forest Landscape Dynamic and People's Livelihood Dependency on Forest: A Study on Bankura District, West Bengal. In: Uday Chatterjee, Angela Oyilieze Akanwa, Suresh Kumar, Sudhir Kumar Singh, Abira Dutta Roy. (eds) Ecological Footprints of Climate Change . Springer Climate. Springer, Cham. https://doi.org/10.1007/978-3-031-15501-7_15

Paper Presentations

Presented paper entitled "*Spatial Variations in Yamuna Water Pollution: A case study of Delhi stretch*" at the national seminar on "Contemporary Issues in Regional Development held in JNU in March 2006.

Presented paper entitled "*Rainfall-Runoff relationship: A case study of Penganga Subwatershed*" at 29th Indian Geography Congress, NAGI, held at Mohanlal Sukharia University, Udaipur, on 19-21st November 2007

Paper entitled "*Solid Waste Management and Identification of Landfill sites with the help of GIS (A case study of Durgapur, W.B.)*" was presented in the National Conference on "Solid Waste Management: Challenges for future" at University of Delhi on 15th March 2008.

Paper presented at International Conference on Climate Change and Sustainable development at Trivendrum in 9th -11th September 2010 entitled "*Spatio Temporal Variability Of Temperature And Precipitation: A Case Study Upper Godavari Basin from 1970-2006*".

Paper presented in an International Seminar "Beijing Forum" in China organized by Peking University on 5th-7th November 2010 entitled "*Environmental degradation and poverty: The factual link in India*" .(Published in Conference Proceedings)

Presented paper entitled "*Assessment of Impacts of Land Use Changes on the Hydrological Regime of Buldana District, Maharashtra*" at National Conference on Population, Resource and Environment" at Aligarh Muslim University, held on March 1 - 2, 2011.

Presented paper entitled "*Modeling Runoff Response to changing land cover in Penganga Subwatershed, Maharashtra*", at the International SWAT Conference held in July 2011 at India Habitat Centre, organized by TAMU and IITD.

Presented paper entitled "*Dynamics of Overland Flow under Changing Cropping Pattern: A Spatial Modeling Approach in Penganga Sub-watershed*" at 16th Annual Conference of the International Association for Mathematical Geosciences, held during 17-20th October, 2014, Jawaharlal Nehru University, New Delhi

Presented paper entitled "*Remote Sensing based assessment of Change in Cropping Pattern: A Case Study of Penganga sub-Watershed, Maharashtra*" at the 9th International Geographical Union (IGU) Conference on "Land Use Change, Climate Extremes and Disaster Risk Reduction" held at Shaheed Bhagat Singh College, University of Delhi during 18th March- 20th March 2016

Presented paper entitled "*Fusion of DGPS, Total Station and GPR Data for the 3D Mapping of Himalayan Cryosphere : Application and Potential*" with Pawan Kumar, Milap Chand Sharma and Satya Prakash at XXXV INCA at International Congress on Spatial Governance on Development, Planning Smart Cities and Disaster Management, At Jawaharlal Nehru University, New Delhi during 15th - 17th December 2015

Presented paper entitled "*Fluctuations in Surface Temperature of Menthosa and Gangstang Glaciers Using MODIS LST Satellite Data*" with Manish Pandey, Milap Chand Sharma, Vijendra Kumar Pandey, Sayed Umar Latif, S. Sreekeshand Rajesh Kumar at 33rd International Geographical Union/International Geographical Congress, At Beijing, China during 21st to 25th August 2013.

Presented paper entitled "*Assessment of rainwater harvesting potential for optimum utilisation in Adamas Knowledge City Campus*" with Sourav Dey, Sumana Dey, Arkamita Adhikari and Moushakhi Barikat UGC sponsored National Seminar on "Development induced changes, environmental concerns and sustainable management" held at Rabindra Bharati University on 10th and 11th March 2017

Presented paper entitled "*Error estimation in land use land cover classification through Landsat MSS and Landsat OLI images : A case of Chanditala ward*" at UGC sponsored National Seminar on "Development induced changes, environmental concerns and sustainable management" held at Rabindra Bharati University on 10th and 11th March 2017.

Presented paper entitled "*Assessment of Sustainability Of Cropping Pattern Change Under Climate Variability: A Case Study of Penganga Sub-Watershed*" at National Conference On Climate Change And Agriculture: Vulnerabilities, Livelihood Adaptation And Food Security, held at Centre for the Study of Regional Development, Jawaharlal Nehru University during 25th -26th August, 2017

Presented paper entitled "*Mapping Building density and its Implications on Land surface Temperature: A case study of Kolkata Metropolitan Area*", at 4th Regional Science & Technology Congress (Western Region), during 9th to 10th December, 2019, held at The University of Burdwan.

Presented paper entitled "*Assessing the Urban Environmental Quality: A Case Study of Kolkata Metropolitan Area, India*" in the International Conference on Geospatial Science For Digital Earth Observation (GSDEO) 2021 organized by the Indian Society of Remote Sensing (ISRS), Kolkata Chapter and the Department of Geography, School of Basic and Applied Sciences, Adamas University on 26th and 27th March 2021.

Presented paper entitled "*Health behaviour in the context of urban built environment in Kolkata Metropolitan*" at the International e-conference on Environment and Health – Frontiers Ahead" held online on 25th and 26th February, 2022 organised by Foundation of Practicing Geographers and Department of Geography, School of Basic and Applied Sciences, Adamas University

Presented paper entitled '*A Spatio-Temporal Temporal Appraisal of Air Pollutant Trajectory Pre and Post Pandemic Scenarios in and Around Chotonagapur Industrial Belt*' at the ICSSR sponsored national seminar on "Urban Development and Environment in The 21st Century: Issues and Challenges" will be held on 03rd & 04th February 2023 in the department of geography, Andhra University, Visakhapatnam.

Awards

Winner of first prize for all India Essay Competition of R.N.Dubey Memorial Lecture on "Sustainable Development and Environment" at the XVIIIth IIG MEET held at Allahabad University in November 2006

Winner of Best Paper at International Conference on Geospatial Science For Digital Earth Observation (GSDEO) 2021 organized by the Indian Society of Remote Sensing (ISRS), Kolkata Chapter and the Department of Geography, School of Basic and Applied Sciences, Adamas University on 26th and 27th March 2021.

Winner of Best Paper at *International e-conference on Environment and Health – Frontiers Ahead* held online on 25th and 26th February, 2022 organised by Foundation of Practicing Geographers and Department of Geography, School of Basic and Applied Sciences, Adamas University

Memberships

- **Life Member of Indian Association of Hydrologist**, National Institute of Hydrology, IIT Roorkee
- **Convenor of Post Graduate Board of Studies, Geography, Bankura University**
- **IQAC-Coordinator/ Member secretary of Bankura Zilla Saradamani Mahila Mahavidyalaya** from March 2021 to April 2022.
- **Member of Board of Research Studies Geography, Bankura University**

Invited Lectures

Invited Speaker at SERB(DST) funded 10days national workshop on "Essential Laboratory and Field Techniques in Geosciences on 22nd December 2016 at Department of Geography and Environment Management, Vidyasagar University, Midnapore.

Invited Speaker at Departmental Seminar on " Remote Sensing and its Application" held at the Department of Geography, Gobinda Prasad Mahavidyalaya, Amarkanan, Bankura on 28th June 2017

Invited Speaker at Department of Geography, Rabindra Bharati University on "Groundwater distribution and Characteristics in West Bengal" on 17th November 2017

Invited Speaker at Department of Geography, Adamas University on "Fundamentals of QGIS and Mobile GPS, Hand-held GPS and other sources" on April 17th 2018 during the three Days National Workshop on "Geospatial Data Analysis Using Open Source Software" on April 17th - 19th, 2018

Invited Speaker at Madhyamgram B.Ed. College on "The role of teacher in fostering quality environmental education" on 25th September, 2019

Invited Speaker at Department of Geography, Jamini Roy College, Bankura University to deliver a lecture on "Cryosphere Studies in Indian Himalayas" on, 19th July, 2020

Invited Speaker at Department of Geography, Sammilani College, Bankura University to deliver a lecture on "Fundamentals of Hydrology" on, 3rd October, 2020

Invited Speaker at Department of Geography, Kashipur Michael Madhusudan, Magavidyalaya, Sidho Kanho Birsha University to deliver a lecture on "Applications of Remote Sensing", on 15th June 2021

Invited Speaker at Department of General and Applied Geography, Dr. Harisingh Gour Central University, Sagar, MP to deliver a lecture on "Execution of Land use Land Cover Mapping using QGIS with handson practice Workshop on Application of Remote sensing and GIS in earth Observation and Geoscience Studies", on 3rd September 2021

Invited Speaker at RUSA Component- 10 (Entrepreneurship and Career Hub), Dept. of Geography, University of Kalyani, to be held from 22nd June to 28th June, 2022 to deliver a lecture on "Surface Water Modelling Using QSWAT"

Training/ Workshops attended

EDUSAT based training course on **Remote Sensing, Geographical Information System and**

Global Positioning System conducted by Indian Institute of Remote Sensing from 25th August 2008 to 20th November 2008

Short term Training Programme on **GIS Application in Hydrogeology and Environmental Geology** organized by School of Environmental Sciences, Jawaharlal Nehru University during 16-18th February 2010.

SWAT (Soil Water Assessment Tool) Workshops in India (Introductory & Advanced) held at IIT, Delhi during 12th July 2010 to 16th July 2010

Training Programme on **Environmental Legislation for Disaster Risk Management** held at National Institute of Disaster Management, New Delhi, during 25-27th April 2013

National Workshop on " **Advanced Soft Computing Techniques in Hydrology and its Applications (ASCTHA-14)** organized by the National Institute of Hydrology, Roorkee, during 27th to 2nd December 2014.

Short term Training Programme on **Groundwater Contamination and Modelling Approaches** at Department of Applied Mathematics, IIT(ISM), Dhanbad during December 18-20th, 2016

Special Lecture Series on **Rivers of India: Geomorphology and Management by Prof V. S. Kale and Luminescence Dating of Fluvial Sediments-Problems and Prospective by Dr. Manoj Jaiswal** held at Department of Geography, Presidency University during 5th to 7th April, 2017.

EDUSAT based training course on **Microwave Remote Sensing and its Application** conducted by Indian Institute of Remote Sensing from 10th April 2017 to 27th April 2008

Trained at 1 week Training on "**Hyperspectral Remote Sensing**" commencing from 22 July, 2019 at National Remote Sensing Centre, Balanagar, Hyderabad.

Thesis Supervision

Munni Debnath Parial is pursuing Ph. D on the registered title "**Spatio Temporal Variation Of Urban Heat Island In Kolkata Metropolitan Area**" in Adamas University

Santanu Mandal is pursuing Ph. D on the tentative title "**Assessing Carbon Sequestration Potential of the forest of Bankura District**" in Bankura University

Laxmi Narayan Yadav is pursuing Ph. D on the tentative title "**Geoinformatics based drought modeling in Kangsabati subwatershed**" in Bankura University