Curriculum Vitae

Dr. Fayma Mushtaq (M.Sc., Ph.D., PostDoc - Remote Sensing & GIS)
Post-Doctoral Fellow
Applied Research Center for Environmental and Marine Studies (ARCEMS)
King Fahd University of Petroleum and Minerals, Dhahran-31261, Saudi Arabia.

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🎂 2nd July 1987

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🌐 https://pure.kfupm.edu.sa/en/persons/fayma-mushtaq **Google** Scholar **Linked in** R^G ResearchGate

About Me

My journey in environmental research commenced with Bachelor's in Environment and Water Management, providing foundational knowledge in monitoring environmental parameters. My understanding and skills were further strengthened through postgraduate studies in Remote Sensing and GIS equipping me with practical knowledge of utilizing various tools and techniques crucial for environmental management. I continued my journey in the field of Remote Sensing & GIS during my Ph.D. and post-doctorate where I specialized in advanced Geospatial techniques and its use in environmental management in general and water quality related issues in particular. My educational background has equipped me with a deep understanding of the development of predictive models for water quality parameters, optical properties, and trophic state index for inland lakes. My multifaceted work spans geospatial data creation, management, ground data collection, water quality analysis and mapping. I am skilled in image processing, spatial-statistical analysis, and spatial modeling techniques and have expertise in developing algorithms using satellite imagery and field data (in-situ/sensor based). In addition, I have also gained experience in the research domain of climate change, vulnerability, and risk assessments. I have produced high-quality knowledge products and effectively communicated complex environmental issues to diverse audiences. I have dedicated my career to utilizing advanced technologies and analytical methods to conduct innovative research, develop solutions, and work with stakeholders to address pressing environmental issues which can benefit society. Overall, my expertise in geo-spatial technology, water quality assessment, climate change, combined with strong communication and technical skills, enables me to contribute significantly to environmental initiatives and drive positive change.

Research Interest

- Spatial Analysis and Modelling (Image Processing and GIS)
- Predictive Modelling / Regression Analysis of Water Quality Assessment
- Natural Resource Management using Remote Sensing & GIS
- Climate Change, Vulnerability and Risk Assessment
- Lightning Activity Studies
- Policy Documentation

Key Skills: Image Processing, Spatial Modelling, Statistical Analysis, Algorithm Development, Water Quality Parameters, Trophic State Index (TSI), Climate Change, Risk and Vulnerability Assessment, Scientific/ Academic Writing, Project Management.

Awards & Fellowships

- Gold Medalist (First Position) in Masters of Remote Sensing and GIS from Jiwaji University, Gwalior
- Recipient of Department of Science & Technology, INSPIRE Fellowship, 2012-2016.
- Recipient of Science & Engineering Research Board (SERB), National Post-Doctoral Fellowship, 2017-2019.
- Awardee of Dr. D.S. Kothari Post-Doctoral Fellowship of University Grants Commission in year 2018.
- Best Oral Presentation Award at IEEE India Geoscience and Remote Young Researches Conclave 2020, December 18-20, 2020. Organized by IEEE Geoscience and Remote Sensing Society Kerala Chapter, Indian Institute of Space Science and Technology, Thiruvananthapuram.
- Research excellent award by "Institute of Investigation in Remote Sensing & GIS", IIRSG Outreach Network Indian Territory on September 16, 2020.
- Best project award in the "NRDMS-DST Summer School on Geospatial Technologies (Geospatial Technology for Sustainable Future and Development) conducted from 10-30 June 2019 by Sher-e-Kashmir University of Agricultural Science and Technology of Kashmir, Shalimar, Srinagar, J&K.

Education

➤ **2017-2019   Post-Doctoral Research: Earth and Atmospheric Science (DST-SERB)**
   University of Kashmir, Hazratbal, Srinagar J&K
   - **Title of Project:** Potential Ecological Impacts of Climate Change, Nitrogen Loadings, and Invasion of Alien Species on Freshwater Lake in Kashmir Himalayas J&K.

➤ **2012-2018   Doctor of Philosophy: Remote Sensing**
   Birla Institute of Technology – Ranchi
   - **Thesis:** Assessment of Potential Impacts of Various Natural and Anthropogenic Factors on Geoenvironment of Wular Lake, J&K.
   - Pre-Phd Course Work S.G.P.A: 9.00 with A+

➤ **2009-2011   Masters of Science: Remote Sensing & GIS**
   Jiwaji University - Gwalior
   - **Dissertation:** Environmental Deterioration of Wular Lake ecosystem (J&K); A geospatial approach.
   - **Percentage:** 81% (1st Division)

➤ **2006-2009   Bachelor of Science: Environment & Water Management**
   Sri Pratap College - Srinagar
   - **Percentage:** 65.7% (1st Division)

Work History

➤ **September 2023- till date (Expiring August 2024) Post Doctoral Fellow:** *Applied Research Center of, Environment & Marine Studies (ARCEMS), King Fahd University of Petroleum and Minerals, Saudi Arabia.*

   - **Title of Project:** Evaluating Future Climate Change in Saudi Arabia: A Holistic Approach to Modeling Vulnerability and Assessing Risks for Informed Adaptation Strategies
   - **Key Role:** Research and publication in reputed journals
   - **Other Research Activities:** Mapping and Monitoring Cyanobacterial (*Trichodesmium erythraeum*) Bloom in Red Sea using Satellite Imagery and Sensor Based Data.

➤ November 2020- May 2023   Geospatial Analyst/ Senior Project Associate: *Department of Ecology, Environment & Remote Sensing, Govt of J&K.*

- **Title of Project:** NRSC sponsored project "Space based Information Support for Decentralized Planning at Panchayat level (SIS-DP)".
- **Key Role:** As a Geospatial Analyst, my primary responsibility is to generate spatial data, particularly land use and land cover maps of J&K. This involves using high-resolution satellite datasets like Geo-Eye, Cartosat-1, Sentinel, and Landsat, as well as conducting field-based data collection. I am also involved in various other projects, including soil resource mapping, loss assessment of irrigation areas, identification of rainwater harvesting structures, forest density and grassland mapping, vulnerability assessment to climate change, and preparation of state action plans on climate change and climate-resilient city action plans involving GHG emission inventory. In addition to data analysis and modelling, I also prepared reports, newsletters, EoI/RFP, Concept Notes, Policy Briefs etc. and submitted them to relevant government agencies. Besides this I supervise the GIS assistants involved in mapping and modelling projects. With my current experience and skills, I am well-equipped to handle any challenging position in my field.

➤ 2017-2019   National Post-Doctoral Fellow: *University of Kashmir - Srinagar*

- **Title of Project:** Potential Ecological Impacts of Climate Change, Nitrogen Loadings, and Invasion of Alien Species on Freshwater Lake in Kashmir Himalayas J&K.
- **Key Role**: While serving as a postdoctoral researcher, I undertook the position of Principal Investigator for a project supported by the Science and Engineering Research Board, a statutory entity operating under the purview of the Government of India's Department of Science & Technology. Throughout this project, I was extensively involved in devising and analyzing frameworks to assess the impact of climate extremes on freshwater lakes, modeling water's optical properties, and overseeing the project's execution. In addition, I managed the allocation of funds and other administrative aspects of the project.

➤ 2012-2016   Teaching Assistance: *Birla Institute of Technology – Ranchi*

- **Key Role:** During the course of my PhD I was associated with the faculty members of department in teaching of various M.Tech and M.Sc lab/theory courses. The details of the courses are given below:
    - TRS 1016 Remote Sensing & GIS for spatial data analysis
    - SGI 3018 Geoinformatics in Environmental Studies
    - CE8206 Remote Sensing application in Civil Engineering
    - TRS 2040 Remote Sensing in Resource Management
    - TRS 1006 Geographic Information System (GIS)
    - TRS 2036 Remote Sensing in Environmental Studies
    - TRS 2026 Spatial Analysis & Modeling

➤ April 2012-June 2012   Lecturer: *University of Kashmir - Srinagar*

- **Key Role:** During my tenure as a Geoinformatics Lecturer at the Department of Earth Sciences, University of Kashmir in Hazratbal, Srinagar, I had the privilege of instructing students in the fundamentals and practical applications of remote sensing as it pertains to

environmental studies. In addition to classroom lectures, I provided guidance and instruction during laboratory sessions, which involved hands-on experience with GIS software and image processing techniques.

- **Subjects Taught:** Basics of Remote Sensing, Application of Remote Sensing in Environmental Studies

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Publications

- A Comprehensive Review of Geomatics based Coastal Zone Management in the Realm of Arabian Gulf, Saudi Arabia (2025). **Fayma Mushtaq**, Luai Muhammad Alhems, Majid Farooq, Surya Prakash Tiwari. Discover Applied Science (Accepted)

- Quantitative Analysis of Oceanographic Parameters in Arabian Gulf: Google Earth Engine Approach (2025). **Fayma Mushtaq**, Simran Bharti, Adyan Ul Haq, Luai Muhammad Alhems, Manikandan Karuppasamy Ponnambalam, Majid Farooq. ESS Open Archive. https://doi.org/10.22541/essoar.173809904.46564347/v1

- Assessing Future Agricultural Vulnerability in Kashmir Valley: Mid- and Late-Century Projections Using SSP Scenarios (2024). Majid Farooq, Suraj Kumar Singh, Shruti Kanga, Gowhar Meraj, **Fayma Mushtaq**, Bojan Đurin, Quoc Bao Pham, Julian Hunt. Sustainability. 16(17): 7691. https://doi.org/10.3390/su16177691

- Analysis of spatial variability of smog episodes over National Capital Delhi during (2013–2017) (2024). **Fayma Mushtaq**, Majid Farooq, Mili Ghosh Nee Lala, Saswati Banerjee, Anamika Shalini Tirkey, Farzana Shaheen, Gowhar Meraj. Discover Applied Sciences. 6(8):413. https://doi.org/10.1007/s42452-024-06109-4

- Estimation of loss in arable land and irrigation requirements using high-resolution imagery and Google Earth Engine (2024). Majid Farooq, **Fayma Mushtaq**, Ubaid Yousuf. Irrigation and Drainage. 73(1):1-17. https://doi.org/10.1002/ird.2931.

- Development of Inherent Vulnerability Index within Jammu Municipal Limits, India (2024). Simran Bharti, Adyan Ul Haq, L. T. Sasang Guite, Shruti Kanga, **Fayma Mushtaq**, Majid Farooq, Suraj Kumar Singh, Pankaj Kumar, and Gowhar Meraj. Climate. 12 (1):12. https://doi.org/10.3390/cli12010012

- Analytic Hierarchy Process (AHP) Based Soil Erosion Susceptibility Mapping in Northwestern Himalayas: A Case Study of Central Kashmir Province (2023). **Fayma Mushtaq**, Majid Farooq, Anamika Shalini Tirkey, Bashir Ahmad Sheikh. *Conservation*. *3*:32-52. https://doi.org/10.3390/conservation3010003.

- Strategic Slum Upgrading and Redevelopment Action Plan for Jammu City (2022). Majid Farooq, **Fayma Mushtaq**, Gowhar Mehraj, Suraj Kumar Singh, Shruti Kanga, Ankita Gupta, Pankaj Kumar, Deepak Singh, Ram Avtar. *Resources*. *11*:120. https://doi.org/10.3390/resources11120120.

- Trophic state assessment of a freshwater Himalayan Lake using Landsat 8 OLI satellite imagery: A case study of Wular lake (2022). **Fayma Mushtaq**, Mili Ghosh Nee Lala, Afaan

Gulzar Mantoo. *Earth and Space Science.* 9 (3):1-1. Online ISSN 2333- 5084. https://doi.org/10.1029/2021EA001653. *IF:3.68.*

- Variability of lake surface water temperature: A case study during El Nino and La Nina events over the Himalayan Lake region (2021). **Fayma Mushtaq,** Pervez Ahmed, Mili Ghosh Nee Lala. *Physical Geography*. 42 (3): 240-264. Online ISSN 1930-0557.https://doi.org/10.1080/02723646.2020.1751386. *IF:2.075.*

- Spatiotemporal change in the surface temperature of Himalayan Lake and its inter-relation with water quality and growth in aquatic vegetation (2019). **Fayma Mushtaq**, Pervez Ahmed, Mili Ghosh Nee Lala. *Geocarto International*. 36 (3): 241-261. Online ISSN 1752- 0762 https://doi.org/10.1080/10106049.2019.1590467. *IF:3.450*.

- Spatio-temporal variability of lightning activity over J&K region and its relationship with topography, vegetation cover, and absorbing aerosol index (AAI) (2018). **Fayma Mushtaq**, Mili Ghosh Nee Lala, Abhishek Anand. *Journal of Atmospheric and Solar-Terrestrial Physics*. 179:281-292. ISSN 1364- 6826. https://doi.org/10.1016/j.jastp.2018.08.011. *IF: 2.119*.

- Assessment of hydrological response as a function of Land use/land cover change and climatic variability in the catchment of the Wular lake, J&K using geospatial technique (2017). **Fayma Mushtaq**, Mili Ghosh Nee Lala. *Environmental Earth Science*. 76 (22):1-19. Online ISSN 1866- 6299. https://doi.org/10.1007/s12665-017-7065-z. *IF:3.119*.

- Assessment of climatic variability in the catchments of Himalayan Lake, Jammu & Kashmir (2016). **Fayma Mushtaq**, Mili Ghosh Nee Lala. *Geocarto International*. 32 (10):1090-1104 (2016). Online ISSN 1752- 0762. https://doi.org/10.1080/10106049.2016.1188169. *IF:3.450.*

- Remote Estimation of Water Quality Parameters of Himalayan Lake (Kashmir) using Landsat 8 Imagery (2016). **Fayma Mushtaq**, Mili Ghosh Nee Lala. *Geocarto International*. 32 (3): 274-285. Online ISSN 1752- 0762. https://doi.org/10.1080/10106049.2016.1140818. *IF:3.450.*

- Assessment of Pollution Level in Himalayan Lake, Kashmir using Geomatics Approach (2015). **Fayma Mushtaq**, Mili Ghosh Nee Lala, AC Pandey. *International Journal of Environmental Analytical Chemistry*. 95 (11):1001-1013. Online ISSN 1029- 0397. https://doi.org/10.1080/03067319.2015.1077517. *IF:2.731.*

- Assessment of land use/land cover dynamics vis-à-vis hydrometeorological variability in Wular Lake environs Kashmir Valley, India using multitemporal satellite data (2014). **Fayma Mushtaq**, AC Pandey. *Arabian Journal of Geoscience*. 7 (11): 4707-4715. Online ISSN 1866-7538. https://doi.org/10.1007/s12517-013-1092-1. *IF:1.827.*

Conferences/Seminars

- Quantitative Analysis of Oceanographic Parameters in Arabian Gulf: Google Earth Engine Approach. **Fayma Mushtaq**, Simran Bharti, Adyan Ul Haq, Luai Muhammad Alhems, Manikandan Karuppasamy Ponnambalam, Majid Farooq. American Geophysical Union (AGU) (Fall Meeting-2024), 9-13 December 2024, Washington, D.C. USA.

- Exploring SST and Chlorophyll-a Anomalies in the Arabian Gulf: A Google Earth Engine Analysis. **Fayma Mushtaq**, Adyan Ul Haq, Simran Bharti, Majid Farooq, Manikandan Karuppasamy Ponnambalam, Luai Muhammad Alhems. IEEE International India Geoscience and Remote Sensing Symposium (InGARSS-2024), Bombay Chapters, 2-5 December 2024, Goa India.

- Estimation of Ice Thickness Distribution Over Raikot Glacier in Nanga Parbat Region: A Geospatial Approach. Afaan Gulzar Mantoo, **Fayma Mushtaq**, Mili Ghosh Nee Lala, Majid Farooq. IEEE International India Geoscience and Remote Sensing Symposium (InGARSS 2021), 6-10 December 2021, Ahmedabad India.

- Remote estimation of Chlorophyll-a Concentration of freshwater lake in Kashmir Himalayas. **Fayma Mushtaq**, Afaan Gulzar Mantoo, Zubair Ahmad Sofi. IEEE India Geoscience and Remote Young Researches Conclave 2020, December 18-20, 2020. Organized by IEEE Geoscience and Remote Sensing Society Kerala Chapter, Indian Institute of Space Science and Technology, Thiruvananthapuram.

- Geospatial techniques to understand debris and Ice cliffs formation on Kanji Glacier in Zanskar Range. Zubair Ahmad Sofi, Afaan Gulzar, **Fayma Mushtaq**, Ovais Javeed, Zubair Malik. IEEE India Geoscience and Remote Young Researches Conclave 2020, December 18-20, 2020. Organized by IEEE Geoscience and Remote Sensing Society Kerala Chapter, Indian Institute of Space Science and Technology, Thiruvananthapuram.

- Estimation of soil erosion risk in upper catchment of Wular Lake, Jammu & Kashmir using RUSLE model. **Fayma Mushtaq**, Mili Ghosh Nee Lala, Abdul Wadood. 1st International Conference on Recent Developments in Science, Humanities & Management-2018 (ICRDSHM-18), April 17-18, 2018. Organized by Amar Singh College, Cluster University Srinagar.

- Spatio-temporal assessment of soil erosion in upper catchment of Wular Lake, Jammu & Kashmir. **Fayma Mushtaq**, Mili Ghosh Nee Lala. 13 Session of Jammu and Kashmir Science Congress (JKSC-2018) April 02-02, 2018. Organized by University of Kashmir in collaboration with Jammu and Kashmir State Science, Technology, and Innovation Council.

- Estimation of Pollution Load of Wular lake from Madhumati Watershed using PLOAD model. **Fayma Mushtaq**, Mili Ghosh Nee Lala. National Seminar on National Development Through Science and Technology, September 25-26, 2017. Organized by Indian Science Congress Association "Srinagar Chapter" University of Kashmir, Srinagar.

- Spatio-temporal distribution of lightning activity over J&K region & its relationship with topography & vegetation cover. **Fayma Mushtaq**, Mili Ghosh Nee Lala, Abishek Ananad. National Seminar on Himalayan Biodiversity Characterization and Bioprospection for Sustainable Utilization, September 18-19, 2017. Organized by Centre for Kashmir Himalayan Biodiversity: Documentation, Bioprospection & Conservation, University of Kashmir, Srinagar, J&K.

Book/ Book Chapters

- **Fayma Mushtaq**, Luai Muhammad Alhems, Manikandan Karuppasamy Ponnambalam, Syed Masiur Rahman. Marine Biodiversity Dynamics in the Arabian Peninsula: A Geomatics Perspective of Climatic and Human Impacts by Springer International Publishing, **(Book).** (Accepted)

- **Fayma Mushtaq**, Luai Muhammad Alhems, Majid Farooq. Climate Crisis over the Arabian Peninsula: Challenges and Pathways to Solutions by Springer International Publishing, **(Book).** (Accepted)

- Application of geospatial technique in analysis of malaria prevalence in an endemic area of Ranchi, India. Manoj Prasad Gandhi, **Fayma Mushtaq**, Afaan Gulzar Mantoo, Mili Ghosh Nee Lala. In Geospatial Technology for Environmental Hazards, Modeling and Management in Asia Countries by Springer International Publishing, pp. 213-234 (2021).**(Book Chapter)**

- Hazards in the perspective of Himalayan Terrain: A review. **Fayma Mushtaq,** Afaan Gulzar Mantoo, Anamika Shalini Tirkey, Sofi Zubair Ahmad. In Disaster Management in the Complex Himalayan Terrains: Natural Hazard Management, Methodologies and Policy Implication by Springer International Publishing, pp. 11-30 (2021). **(Book Chapter)**

- Significance of Geo-Visualization Tools for Pollution Monitoring. **Fayma Mushtaq**, Majid Farooq. In Geospatial Analytics for Environmental Pollution Modeling: Analysis, Control and Management by Springer International Publishing, pp. 353-384 (2023). **(Book Chapter).**

- Noise Pollution Modelling using GIS Techniques in Srinagar City. Ankit Khajuria, Majid Farooq, **Fayma Mushtaq**, Priyanka Solan. In Geospatial Analytics for Environmental Pollution Modeling: Analysis, Control and Management by Springer International Publishing, pp. 267-286 (2023). **(Book Chapter).**

- Environmental Pollution Control Measures and Strategies: An Overview of Recent Developments. Zeba Khanam, Fatma Mehar Sultana, **Fayma Mushtaq**. In Geospatial Analytics for Environmental Pollution Modeling: Analysis, Control and Management by Springer International Publishing, pp. 385–414 (2023). **(Book Chapter).**

- **Fayma Mushtaq,** Majid Farooq, Alok Bhushan Mukherjee, Mili Ghosh Nee Lala. Geospatial Analytics for Environmental Pollution Modeling: Analysis, Control and Management by Springer International Publishing, Edition:1; Number of Pages: XVII, 437(2023). **(Book).**

Policy Reports/Newsletters/Brochures

- District-Level Climate Risk Assessment for India: Mapping Flood and Drought Risks Using IPCC Framework.
  https://dst.gov.in/sites/default/files/Full%20Report_District Level%20Climate%20Risk%20Assessment%20for%20India_Mapping%20Flood%20and%20 0Drought%20Risks%20Using%20IPCC%20Framework.pdf
- Climate Resilient City Action Plan of Srinagar.

- Climate Resilient City Action Plan of Jammu.
- Forest Density Based Area Treatment Prioritization A Remote Sensing Based Study.
- Assessment of Inherent Vulnerability to Climate Change - Jammu and Kashmir
- Site Suitability for Rainwater Harvesting (RWH) Structures in District Poonch of Jammu and Kashmir.
- Assessment of Loss of Irrigation Area of SE/Padshahi Canal in Kashmir Valley.
- Inventory of Soil and Land Resources of Srinagar District, Jammu and Kashmir using Remote Sensing techniques.
- Newsletter on Biodiversity of Jammu and Kashmir – II
- Brochures on Climate Change in J&K, Climate Resilient Panchayat and Climate Change Cell.

Delivered Talks

- Delivered talk on "The Role of Civil Society, Women, and Youth in Land Stewardship and Climate Action" at the United Nations Convention to Combat Desertification (UNCCD) COP16, held in Riyadh, Saudi Arabia, from 2-13 December 2024.
- Delivered expert talk on Climate Change Vulnerability Assessment of Agriculture: Adaptation and Mitigation Strategies from Policy Makers View Point in Seminar on Agricultural Modelling and Assessing Risk for transforming humanity (SAMARTH), November 15-18 2024, at Lucknow Uttar Pradesh, organized by organized by CII & Leads Connect Service Pvt Ltd.
- Delivered lecture on "Introduction to Google Earth Engine" for summer training at Applied Research Center for Environmental and Marine Studies (ARCEMS) King Fahd University of Petroleum and Minerals, Dhahran-31261, Saudi Arabia.
- Delivered lecture on "Introduction to Satellite Imagery Analysis" for summer training at Applied Research Center for Environmental and Marine Studies (ARCEMS) King Fahd University of Petroleum and Minerals, Dhahran-31261, Saudi Arabia.
- Delivered lecture on "Introduction to image enhancement- Principal component analysis and indices" in Winter School in Geospatial Science and Technology (Level 1) at SGVU Organized by Suresh Gyan Vihar University Jagatpura, Jaipur (India).
- Delivered lecture on "Spatial Data Models" in Winter School in Geospatial Science and Technology (Level 1) at SGVU Organized by Suresh Gyan Vihar University Jagatpura, Jaipur (India).
- Delivered expert talk on "Implications of Changing Climate on Water Resources of Kashmir Himalayas" in the National Seminar cum Workshop on Application of Space Technology & Artificial Intelligence for Climate Resilient Agriculture and Disaster Management, October 29-30 2021, organized by Leads Connect Service Pvt Ltd & BIT Mesra.

Workshops/Training Organized
- One Day Workshop on "Forests Biodiversity & Climate Change" at SKICC, Srinagar on 7th October 2021.
- One Day Workshop on "World Environment Day" at SKICC, Srinagar on 5th June 2022.
- One Day Workshop on "Climate Resilient City Action Plan for Jammu and Srinagar" at ICC, Jammu on 18th January 2023.

Research Impact

Citation indices	All	Since 2019
Citations	356	296
h-index	10	9
i10-index	10	9

Short Term Projects

- Worked on GPS mapping of the entire campus of Jiwaji University, using eTrex Vista GPS during M.Sc. at SOS Earth Science, Jiwaji University Gwalior (M.P.).
- Worked on Land use/ Land cover mapping of Jorasi area of district Gwalior during M.Sc. at SOS Earth Science, Jiwaji University Gwalior (M.P.).
- Worked on GPS mapping of the entire campus of SKUAST-K.
- Worked on Spatio-Temporal Analysis of Road Traffic Crashes in Relation to Proximate Health Care Facilities in J&K.
- Cadastral level CRZ map to monitor the critical habitat (Mangrove) in the Indian coast (Kerala) using QGIS (As per CRZ 2019 regulations).

Trainings/Workshops

International and National: Participated in 45 trainings/workshops organized by different national and international agencies like ISRO, NRSC, NIDM, ESRI, UNEP, DST, ATAL, IITs, NITs.

- Undergone training programme on Weather, Climate, Meteorological Hazards & Disasters over Jharkhand Region in Birla Institute of Technology Mesra, Ranchi sponsored by Ministry of Earth Sciences, India during June 27-29, 2013.
- Undergone training on Geoweb Services-Technology and Application sponsored by Indian Institute of Remote Sensing from 11.02.2013 to 15.03.2013.
- International workshop on Time-Series Satellite Data Processing for Understanding Space Time Dynamics at Department of Remote Sensing, Birla Institute of Technology Mesra, Ranchi from 26-27 November, 2015
- Training course on "Hydrologic Modelling using SWAT" at National Institute of Hydrology Roorkee-247667, Uttarakhand, from 11-22 June, 2018.
- Training Program on "Geospatial Technology towards a Sustainable Future and Development" sponsored by DST-NRDMS, organized by S K University of Agricultural Sciences and Technology of Kashmir, from 10-30 June 2019.
- Completed IIRSG-Outreach Network sponsored Micro Certification Course "Fundamentals of Remote Sensing & GIS".
- Participated in three days Online International Workshop on "Development of Assessment methodologies and Smart Information System for Water Resources" during 3rd-5th September 2020, Organized by Civil Engineering, St. Martin Engineering College, Dhulapally Secunderabad, T.S, India.
- Participated in National Webinar on "Environmental Degradation and Sustainable Development: Issues and Challenges" during 11-12 September 2020, organized by Department of Geography, Pt. S. N. Shukla Vishwavidyalaya, Shahdol, M.P.
- Participated in International Webinar on "Save Ozone Save Earth" on 16 September 2020, organized by Department of Life Sciences Bhakta Kavi Narsinh Mehta University, Junagadh, India in association with United Nation Environment Programme-Ozone Secretariat.
- Participated in National Webinar on "Geomedical Health Hazards and Environmental Problems in Tribal Areas: Issues, Challenges and Opportunities" on 17 September 2020,

Organized by School of Earth and Environmental Sciences, KBC North Maharashtra University, Jalgaon.

- Attended one-week short term course on "Recent Advancements in Concrete Technology" from 15-19 September 2020, organized by Department of Civil Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar under the aegis of TEQIP-III.
- Participated in International Webinar on "Spatial Intelligence for Real World Solutions" during16-18 September 2020, organized by Symbiosis Institute of Geoinformatics.
- Participated in one day Webinar on "Earth Observation Satellites for Social, Environmental and Economic Studies" on 26 September 2020, organized by Suresh Gyan Vihar University.
- Participated in one day Webinar on "Advances in Space Technology for Forest Resource Inventory & Management" on 3 October 2020, organized by Suresh Gyan Vihar University.
- Participated in online webinar programme on "Geospatial Applications in Disaster Management" on 6 October 2020, organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India & Indian Institute of Technology, Tirupati.
- Participated in online training programme on "Space Technology in Disaster Management" from 07 to 09 October 2020, organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India & in collaboration with National Remote Sensing Centre, ISRO, Dept. of Space Govt. of India.
- Participated in "MSF World Space Week 2020 webinar held from 4-10 October 2020, organized by Mysore Science Foundation.
- Participated in International webinar lecture series on "Paradigm Shift in Geographical Research and Geospatial Technology" held during 8-12 October 2020, organized by Department of Geography Khwaja Moinuddin Chishti Language University, Lucknow, Uttar Pradesh, India.
- Participated in one day virtual workshop on "EO factory-Reformulating Earth Observation Analytics from Pixel to Intelligence with AI/ML held on 20 October 2020, organized by Suresh Gyan Vihar University.
- Participated in the webinar on "Hill Area Environment, Climate Change, Sustainable Development and Landslide Risk Reduction & Resilience" on 20 October 2020, organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India & in collaboration with Indian Institute of Technology Guwahati.
- Participated in two days national webinar on "Research Methodology using SPSS software" held during 20-21 October 2020, organized by Department of Geography Khwaja Moinuddin Chishti Language University, Lucknow, Uttar Pradesh, India.
- Participated in online webinar programme on "Public Information and Media Management in Disaster Situation" on 27 October 2020 jointly organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India and Vigyan Prasar.
- Participated in the online course on "Basics of Geo-computation and Geoweb Services" during 19-29 October 2020 by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun.
- Participated in AICTE sponsored One Week online STTP on "Capacity Building and Training on Geospatial Technologies (Phase-I: Water Resources)" during 26 to 31 October 2020, organized by Geospatial Information Centre (GIC), Department of Civil Engineering, S.R.K.R. Engineering College Bhimavaram, Andhra Pradesh.
- Participated in the 7th Annual Virtual International Convention on "Sustainability in Current Scenario: Challenges & Solutions" (SCSCS-2020) held from 05 to 07 Nov, 2020 Organized by Suresh Gyan Vihar University.
- Completed Massive Open online course (Track-1) on "Geospatial Applications for Disaster Risk Management" jointly conducted by Centre for Space Science and Technology Education

for Asia and the Pacific (CSSTEAP) & United Nations Platform for Space based Information for Disaster Management and Emergency Response (UN-SPIDER).

- Completed Massive Open online course (Track-2) on "Geospatial Applications for Disaster Risk Management" jointly conducted by Centre for Space Science and Technology Education for Asia and the Pacific (CSSTEAP) & United Nations Platform for Space based Information for Disaster Management and Emergency Response (UN-SPIDER).
- Participated in International e-conference on "COVID-19: Environmental Perspectives" on 10 November 2020, organized by Shree Saurashtra Education Trust, Science College, Junagadh, India, in association with Gujarat Council on Science and Technology, Gandhinagar.
- Participated in AICTE Training and Learning (ATAL) Academy Online FDP on "GIS & Remote Sensing" from 2020-11-2 to 2020-11-6 at Indian Institute of Space Science and Technology, Department of Space, Government of India.
- Participated in AICTE Training and Learning (ATAL) Academy Online FDP on "Climate Sciences" from 2020-11-9 to 2020-11-13 at Cochin University of science and Technology.
- Participated in the International Geoscience Colloquium, session-1 "New Proxies of Climate Changes of the Past and Present" during 10-11 November 2020, jointly organized by Christ College Autonomous, Irinjalakuda, Kerala, India, University of Kerala, University of Exeter, UK, University of Zululand, South Africa, Supported by Ministry of Earth Science (MoES), Government of India.
- Participated in the International Geoscience Colloquium, session-2 "Geo hazards, Mitigation and Mangement" during 12-13 November 2020, jointly organized by Christ College Autonomous, Irinjalakuda, Kerala, India, University of Kerala, University of Exeter, UK, University of Zululand, South Africa, Supported by Ministry of Earth Science (MoES), Government of India.
- Participated in AICTE Training and Learning (ATAL) Academy Online FDP on "Global Navigation Satellite System (GNSS)" from 2020-12-18 to 2020-12-22 at National Institute of Technology Mizoram.
- Participated as a delegate in the Live Webinar on "Mapping the Future with GIS" Organized by Division of Geoinformatics, Faculty of Natural Sciences JSS Academy of Higher Education & Research, Mysuru on 19 November 2020.
- Participated in the online course on "Remote Sensing of Land Degradation" during 01 to 07 December 2020 by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun.
- Participated in two days National Webinar on "Mining Environment" during 14-15 December 2020, organized by IIT(ISM) ENVIS Centre-RP, Department of Environmental Science & Engineering Indian Institute of Technology (ISM), Dhanbad.
- Participated in the online course on "Advances in SAR-Polarimetry and Interferometry" during 14 to 18 December 2020 by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun.
- Participated in AICTE Training and Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 2021-04-01 to 2021-01-08 at Dr. Ambedkar Institute of Technology.
- Participated in International webinar on "Air Pollution, Climate Change and Their Impact on Mountain Water Resources" on 26-01-2021 organized by Department of Environmental Sciences COMSATS University Islamabad (CUI), Abbottabad Campus.
- Participated in online course on "Overview of Geoprocessing using Python" during 18-01-2021 to 29-01-2021 by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun.
- Participated in online webinar programme on "Urban earthquake risk mitigation" on 25 January 2021 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India.

- Participated in online training on "E-course on Hydro-Meteorological and climate data analysis: Basic and Advanced techniques" during 01-05 March 2021, organized by National Institute of Hydrology, Roorkee.
- Participated in online course on "Nature-based Solutions for Disaster and Climate Resilience" organized by United Nations Environment Programme (UNEP) and the Partnership for Environment and Disaster Risk Reduction (PEDRR) with support from the European Union, in collaboration with the SDG Academy and the EdX Platform.
- Participated in 5 days workshop on "ArcGIS Desktop Foundation Course" in the month of May organized by ESRI India.
- Participated in 21 days Advanced Training program/ Level 2 NRDMS-DST winter school program on Recent Advances in Marine Geospatial Technology in online mode at Department of Ocean Engineering, IIT Madras from 3 to 23 January 2021.
- Participated in module 3 of international online training course on Remote Sensing and Geospatial Analysis for Human Health under the auspices of ONWARD (Open Network for Water Related Diseases) project, jointly under EUMETSAT, Darmstadt, Germany from 11 to 29 July 2022.
- Attended workshop on Marine Data 4 Ocean Health organized by Copernicus, the Copernicus Marine Service and Mercator Ocean International, held online on 29 to 31 January 2025.

Membership
- Member, IEEE (Institute of Electrical and Electronics Engineers), Geoscience and Remote Sensing Symposium (GARSS)
- Member, American Geophysical Union (AGU)
- Member, European Geoscience Union (EGU)

Reviewer in International Journals
• Remote Sensing of Environment
• International Journal of Environmental Analytical Chemistry
• International Journal of Applied Earth Observation and Geoinformation
• Geocarto International
• PeerJ
• Water
• MDPI
• Geo Journal
• Arabian Journal of Geoscience
• Scientific Reports

Technical Profile
Image Processing Software :   ERDAS Imagine, ENVI.
GIS :   ESRI ArcGIS, ArcGIS Pro, QGIS, SAGA, Google Earth Engine.
Modeling Software :   PLOAD, SWAT, RUSLE, SCS CN, SDR, SeaDas, OPAC.
Others: Python, R, MS Office, SPSS, Ferret.

Newspaper Editorial
• Nurturing Minds in the Era of Technology in Greater Kashmir (Srinagar 2nd May 2024)
• Green Financing: A Path to Net-Zero (Srinagar 31st May 2024)
• Silent Demise of Mother Earth in Greater Kashmir (Srinagar 5th July 2024)

Extracurricular Activities

- Member of College NSS unit in year 2007 and Volunteer/completed 120 days national service scheme (NSS) course at Sri Pratap College Srinagar.
- Participated in the Inter-College Symposium at Department of Wildlife Protection during the Wildlife week celebrations.
- Participated in the Intra College Elocution Competition on Gandhi Jayanti Celebrations in year 2007
- Participated in the Long Walk in the year 2007 at Sri Pratap College Srinagar.
- Participated in "Celebration of Earth Day from Home" on April 22, 2020 organized by Department of Geography Changu Kana Thakur Arts, Commerce and Science College New Panvel.

Languages: English, Hindi, Urdu and Kashmiri.

Hobbies: Cycling, Trekking, Book Reading, Travelling, Nature Photography.

References

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03rd of February 2025