: Curriculum Vitae:

Dr. Swagata Ghosh

Assistant Professor (Grade-II)
Amity Institute of Geoinformatics and Remote Sensing
Amity University-Sector 125-NOIDA-201303 (U.P.) India
E-mail: swagata.gis@gmail.com; sghosh1@amity.edu
Mobile No.: 9582297010
ORCID iD: https://orcid.org/0000-0001-5434-0148
Scopus Author ID:41761491000
Google Scholar Id: 3y2VqiYAAAAJ
Web of Science Researcher ID: AAE-9484-2021
Vidwan-ID : 134261

AREA OF INTERESTS

Research Interest: Application of Remote Sensing and GIS in

- *Modelling and Simulation of Climate change in Urban versus Rural areas*
- *Rural development with special focus to mitigate rural-urban imbalance in environmental quality and societal equity*
- *Urban Growth Modelling*
- *Urban Hazard Risk Assessment with special focus to Urban Heat Island (UHI)*
- *Air Pollution Modelling*
- *Forest Cover Analysis*
- *Snow and Glacier Studies*

Teaching interest: Remote Sensing, GIS, Digital Image Processing, Image Interpretation, Photogrammetry, Remote Sensing and GIS application to Cryosphere, Remote Sensing and GIS application to Urban Planning & Management Physical Geography, Urban Geography, Cartography.

FUNDED RESEARCH PROJECT (PI)

Project Title:	Analysis of Urbanization and Its Impact on Climate Alteration and Environmental Pollution in Faridabad, Haryana, Sub-Region of NCR, India using Remote Sensing, GIS and In-Situ Measurement
Role:	Sole PI
Funding Agency:	Science & Engineering Research Board (SERB), Department of Science & Technology (DST), Govt. of India
Scheme:	Early Career Research Award (ECRA)
Date :	April, 2017
Total Cost:	Rs 2819010/-
Status:	Ongoing

POST DOCTORAL RESEARCH EXPERIENCE

Position : Postdoctoral Fellow

Department & Institute : Dept of Civil Engg. (Div. Remote Sensing), IIT Bombay

Duration : April 04, 2013- July 31, 2014 **(01 year 03 months)**

Research topic : Mapping of Debris-covered glaciers in parts of the Greater Himalaya Range, Western Himalaya using advanced Remote Sensing Approach

Academic Responsibilities : Teaching M.Tech. lab course on RS & GIS, preparing lab manuals, preparing lecture note and deliver lecture in Quality Improvement Program (QIP).

Ph.D. RESEARCH

Topic : Assessment of Glacier Dynamics in parts of Great Himalayan Range, Ladakh, India using Geoinformatics

Department & Institute : Department of Remote Sensing, BIT Mesra, Ranchi

Status : Defense Date: September 07, 2013
Awarded on October 31, 2013

TEACHING EXPERIENCE

Position : Assistant Professor

Department & Institute : Amity Institute of GeoInformatics and Remote sensing
Amity University, Noida

Duration : December 01, 2014- Till date

Academic Responsibilities : Courses Taught (Theory+Practical) (M.Tech., M.Sc., B.Sc., BPlan)

- Climatology and Biogeography
- DIP in Remote Sensing
- Basic Concepts of Remote Sensing
- Geographical Information System
- Application of GIS
- Photogrammetry and Image Interpretation
- GIS for Spatial Planning
- RS GIS application in Urban Planning & Management
- RS GIS application in Snow and Glacier Studies

Activities: Preparing lecture notes and deliver lectures, organizing Tutorials, Preparing lab manuals and conducting labs

Professional Achievements

1. Received Erasmus+ Grant EUR 2740/- under International grant to visit University of Salzburg, Austria as Visiting Professor, 2022.
2. SERB DST Early Career Research Award (2017)
3. Research Collaboration with IIT Delhi and MAIA Science Team, JPL, NASA.

Ph.D. GUIDED

Submitted:01

Ongoing:03

M.Tech/M.SC. DISSERTATION GUIDED

Completed:20

AWARDS / FELLOWSHIPS

1. Council of Scientific and Industrial Research (**CSIR**) - Senior Research Fellowship, April, 2011.
2. National Eligibility Test for Lectureship **(NET)** conducted by University Grants Commission (UGC), June 2005.
3. Award under **National Scholarship** Scheme of the Govt. of India on the result on B.Sc (3 Year Hons) exam, April 2005.

FIELD EXPERIENCE

1. As PI of SERB funded project, conducted field survey during 2018-19 to Faridabad for taking GPS locations and spectral signature collection (through spectroradiometer) of selected land use and land cover classes and PM_{10}, $PM_{2.5}$ data collection using particle monitor.
2. During the course of Ph.D. a field trip (August, 2011) was made to Ladakh and surrounding areas with assistance of BIT Mesra for taking the snout position of selected glaciers and studying the glacial land cover classes.

ACADEMIC QUALIFICATION

Examination passed	Board/university	% of marks	Division	Subjects	Year of passing
Ph.D. (Technology)	BIT Mesra, Ranchi	NA	NA	Remote Sensing	2013
M.Tech	BIT Mesra, Ranchi	87.80	1st class Distinction	Remote Sensing	2009
P.G. Diploma	University of Allahabad	77.22	1st class Distinction	Remote Sensing & GIS	2006
M.Sc.	University of Calcutta	66.00	1st	Geography	2004
B.Sc. (Hons.)	University of Calcutta	62.75	1st	Geography (Hons.)	2002
Higher secondary	West Bengal Council of Higher Secondary Education	72.40	1st	Economics,Geography, Homn.,Mathematics	1999
Secondary	West Bengal Board of Secondary Education	81.50	1st	Bengali,Eng, Math,Geo,His,P.sc, L.sc.,Logic	1997

PUBLICATIONS

Papers in Peer Reviewed Journals

1. Kumar Ranjan, Vipasha Sharma, Swagata Ghosh* (2022). Assessment of Urban Growth and Variation of Aerosol Optical Depth in Faridabad District, Haryana, India. Pollution, 8 (2), 447-461. https://jpoll.ut.ac.ir/article_85961_4e7e75bbb7eb77e122f86c6bdd526e07.pdf. **ESCI, WoS and Scopus indexed.** ISSN: 2383-4501.

2. Sunil Kumar, Kousik Midya, Swagata Ghosh* and Sultan Singh (2021). Pixel-Based vs. Object-Based Anthropogenic Impervious Surface Detection: Driver for Urban-Rural Thermal Disparity in Faridabad, Haryana, India. Geocarto International. https://doi.org/10.1080/10106049.2021.2002429**. SCI and Scopus indexed (Impact Factor: 4.889).** ISSN: 1752-0762.

3. Sunil Kumar, Swagata Ghosh* and Sultan Singh (2021). Polycentric urban growth and identification of urban hot spots in Faridabad, the million-plus metropolitan city of Haryana, India-A zonal assessment using spatial metrics. Environment, Development and Sustainability. https://doi.org/10.1007/s10668-021-01782-6. **SCI, WoS and Scopus indexed (Impact Factor: 3.219)** ISSN: 1573-2975.

4. Vipasha Sharma Swagata Ghosh*, Muhammad Bilal, Sagnik Dey and Sultan Singh (2021). Performance of MODIS C6.1 Dark Target and Deep Blue Aerosol Products in Delhi National Capital Region, India: Application for Aerosol Studies. Atmospheric Pollution Research, 12 (3), 65-74. https://doi.org/10.1016/j.apr.2021.01.023. **SCI, WoS and Scopus indexed (Impact Factor: 4.352)** ISSN: 1309-1042.

5. Sunil Kumar, Swagata Ghosh*, Ramesh Singh Hooda and Sultan Singh (2019). Monitoring and prediction of land use land cover changes and its impact on land surface temperature in the central part of Hisar district, Haryana under semi-arid zone of India. Journal of Landscape Ecology, 12 (3), 117-140. *DOI: 10.2478/jlecol-2019-0020*. **Scopus indexed.** ISSN:1805-4196.

6. Amarjeet Kaur, Swagata Ghosh* and Sanjay K. Das (2019). Satellite Image-Based Land Use/Land Cover Dynamics and Forest Cover Change Analysis (1996-2016) in Odisha, India. Asian Journal of Water Environment and Pollution, 16 (1), 25-39. *DOI: 10.3233/AJW190004*. **ESCI and Scopus indexed.** ISSN:1875-8568.

7. Ridhima Malik, Swagata Ghosh*, Sunil Dhar, Prafull Singh and Madhulika Singh (2016). GIS-based Landslide Hazard Zonation along National Highway-58, from Rishikesh to Joshimath, Uttarakhand, India. International Journal of Advancement in Remote Sensing, GIS and Geography, 4(2), 41-55. ISSN: 2321-8355.

8. Swagata Ghosh*, Arvind C. Pandey and Mahendra S. Nathawat (2014). Mapping of debris-covered glaciers in parts of the Greater Himalaya Range, Ladakh, western Himalaya, using remote sensing and GIS. Journal of Applied Remote Sensing, 8(1), 083579. DOI: 10.1117/1.JRS.8.083579. **SCI and Scopus indexed (Impact Factor: 1.53)** ISSN: 1931-3195.

9. Swagata Ghosh*, A.C. Pandey, M.S. Nathawat, I M Bahuguna, Ajai (2014). Contrasting signals of glacier changes in Zanskar valley, Jammu & Kashmir, India using Remote Sensing and GIS. Journal

of the Indian Society of Remote Sensing, 42 (4), 817-827. https://doi.org/10.1007/s12524-014-0368-6. **SCI and Scopus indexed (Impact Factor: 1.563)** ISSN: 0974-3006.

10. Swagata Ghosh and A.C. Pandey (2013) Estimating the Variation in Glacier Area over the Last 4 Decade and Recent Mass Balance Fluctuations over the Pensilungpa Glacier, J&K, India. Global Perspectives on Geography, 1 (4), 58-65. ISSN:2328-2339.

11. A.C. Pandey, M.S.Nathawat and Swagata Ghosh (2012) Morphometric control on glacier area changes in the Great Himalayan Range, Jammu and Kashmir, India. Current Science, 102 (8), 1188-1193. **SCI and Scopus indexed (Impact Factor: 1.102)** ISSN 0011-3891.

12. A.C. Pandey, Swagata Ghosh, M.S.Nathawat and Reet Kamal Tiwari (2012) Area Change and Thickness Variation over Pensilungpa Glacier (J&K) using Remote Sensing. Journal of the Indian Society of Remote Sensing, 40 (2), 245-255. https://doi.org/10.1007/s12524-011-0134-y **SCI and Scopus indexed (Impact Factor: 1.563)** ISSN: 0974-3006.

13. Swagata Ghosh, A.C. Pandey, M.S. Nathawat, I M Bahuguna, A V Kulkarni, Ajai. (2011) Evaluating geological, geomorphological control on glacier changes in Great Himalayan Range, Jammu & Kashmir, India. Journal of Geomatics, 5 (2), 79-84. ISSN:0976–1330.

14. A.C.Pandey, Swagata Ghosh and M.S.Nathawat (2011) Evaluating patterns of temporal glacier changes in Greater Himalayan Range, Jammu & Kashmir, India. Geocarto International, 26 (4), 321-338. https://doi.org/10.1080/10106049.2011.554611. **SCI and Scopus indexed (Impact Factor: 4.889).** ISSN: 1752-0762.

Book Chapters

1. Swagata Ghosh & RAAJ Ramsankaran, 2021. Knowledge-Based Mapping of Debris-Covered Glaciers in the Greater Himalayan Range. In "Pandey, P.C. and Sharma, L.K. (eds.) *Advances in Remote Sensing for Natural Resource Monitoring*, pp.287-322. **WILEY** (ISBN: 9781119616016). **https://doi.org/10.1002/9781119616016.ch15**

2. Swagata Ghosh, Krishna Vidhata, Sunil Kumar, Kousik Midya, 2021. Seasonal Contrast of Land Surface Temperature of Faridabad, A Highly Urbanized Zone in Haryana, India. In " J.A.Tenedório and R. Estanqueiro (eds.) *Methods and Applications of Geospatial Technology in Sustainable Urbanism*." (**IGI Global Publisher**) EISBN: 9781799822516. DOI: 10.4018/978-1-7998-2249-3.ch008.

3. Gupta, V.D., Areendran, G., Raj, K., Ghosh, S., Dutta, S. and Sahana, M., 2021. Assessing habitat suitability of leopards (Panthera pardus) in unprotected scrublands of Bera, Rajasthan, India. In: Shit, P. et al. (eds.) Forest Resources Resilience and Conflicts pp. 329-342. Elsevier. EISBN: 9780128230985. 10.1016/B978-0-12-822931-6.00026-5.

Conference Proceedings

1. Sunil Kumar, Swagata Ghosh* and Sultan Singh (2019). Trend Analysis of Urban Expansion and Urban Sprawl Development in Faridabad City, Haryana, India. Indian Cartographer, 39, 280-287. ISSN: 0927-8392.

2. Kangkana Kashyap, Dhrubajyoti Sahariah, Swagata Ghosh* (2018). Monitoring Land Use/Land Cover Change and Consequent Effects on Wetland Environment-A Case Study of Deepor Beel,

Assam, India, Proceedings of 19th Esri India User Conference 2018 held in Delhi NCR, India during September 10-11, 2018.

3. Maya Kumari, Swagata Ghosh, Khuraijam Victoria (2018). Spatio-Temporal Analysis Of Phumdi Proliferation Around Lotak Lake Of Manipur Using Geospatial Technology. Proceedings of 19th Esri India User Conference 2018 held in Delhi NCR, India during September 10-11, 2018.

4. Swagata Ghosh and RAAJ Ramsankaran (2017). Integrated approach for mapping debris-covered glacier using optical, thermal and topographic information-a case study on Bara Shigri Glacier, western Himalaya, India, Proceedings of 38th Asian Conference on Remote Sensing (ACRS)-Space Applications: Touching Human Lives, ACRS2017 held in New Delhi, India during October 23-27, 2017. **Scopus indexed**

5. Swagata Ghosh and Sukanya Ghosh (2017) Evaluating patterns of urban growth in Faridabad, sub-region of NCR, India using remote sensing, GIS and Entropy approach. Indian Cartographer, 37, 258-261. **ISSN: 0927-8392**

6. Swagata Ghosh, A.C. Pandey, M.S. Nathawat (2011) How fast the glaciers are changing in the western Himalaya: A satellite based temporal assessment in the 2nd National Conference on Geospatial Technologies and Applications, organized by REA, CSRE, IIT Bombay during 24th -27th February, 2011.

Manuscript Submitted/Under Review:

1. Vipasha Sharma, Swagata Ghosh*, Sagnik Dey Sultan Sing. Modeling PM2.5 for Data-Scarce Zone of Northwestern India using Multi Linear Regression and Random Forest Approaches. Under review in "Annals of GIS"(Taylor & Francis; IF:3.5; SCIE, Scopus)-Manuscript ID: 222339561.
2. Sarah Rahman and Swagata Ghosh*.Quantification of Eco-environmental Status in Faridabad District, Haryana, India. Under review"Asian Geographer"(Taylor & Francis; IF:2.4; SCIE, Scopus)-Manuscript ID: 225001832.
3. Vipasha Sharma, Swagata Ghosh*, Sultan Sing Validation of the High-Resolution MODIS C6 MAIAC aerosol product using AERONET AOD in parts of National Capital Region, India -A Critically Polluted Area. Under Review in "Pollution" (Scopus, ESCI). Manuscript ID: POLL-202206-1523.
4. Vipasha Sharma, Swagata Ghosh*, Shahnawaz, Praveen Kumar Rai, Sultan Sing "Analysis of COVID-19 2nd Lockdown (2020-2021) Effect on Aerosol Optical Depth using High-Resolution MODIS MAIAC Aerosol Product". Under review in "Forum Geografic" (Scopus, ESCI)

CONFERENCE PRESENTATION/PARTICIPATION

1. Presented a paper entitled "Trend Analysis of Urban Expansion and Urban Sprawl Development in Faridabad City, Haryana, India" in INCA 2019: 39th International Congress of Indian National Cartographic Association (INCA) on New Age Cartography and Geospatial Technology in Digital India-Urban Mapping and Smart Cities held in Dehradun, Uttarakhand India during December 18-20, 2019.

2. Presented a paper entitled "Comparison between Deep Blue and Dark Target AOD for Estimation of $PM_{2.5}$ Concentration around Selected Satellite Cities of Delhi" in INCA 2019: 39th International Congress of Indian National Cartographic Association (INCA) on New Age Cartography and Geospatial Technology in Digital India-Urban Mapping and Smart Cities held in Dehradun, Uttarakhand India during December 18-20, 2019.

3. Presented a paper entitled "Inter-Seasonal Variation of Aerosol Optical Depth in parts of National Capital Region (NCR), India" in XIII International Geographical Union (IGU)-India International

Conference on “Heading towards Zero: Sustainable Development in Economy, Environment and Society”, organized from October, 19-21, 2019 by the Department of Geography, Central University of Haryana.

4. Presented a paper entitled "Object-Based vs. Pixel-Based Classification: A Comparative Performance Evaluation for Land Cover Analysis" in XIII International Geographical Union (IGU)-India International Conference on “Heading towards Zero: Sustainable Development in Economy, Environment and Society”, organized from October, 19-21, 2019 by the Department of Geography, Central University of Haryana.

5. Presented a paper entitled "Monitoring Land Use/Land Cover Change and Consequent Effects on Wetland Environment-A Case Study of Deepor Beel, Assam, India" in ESRI UC 2018: ESRI India User Conference in New Delhi, India during September 10-11, 2018.

6. Presented a paper entitled "Integrated approach for mapping debris-covered glacier using optical, thermal and topographic information-a case study on Bara Shigri Glacier, western Himalaya, India" in ACRS 2017: 38th Asian Conference on Remote Sensing (ACRS) Space Application: Touching Human Lives held in New Delhi, India during October 23-27, 2017.

7. Presented a paper entitled "Evaluating patterns of urban growth in Faridabad, sub-region of NCR, India using remote sensing, GIS and Entropy approach" in INCA 2017: 37th International Congress of Indian National Cartographic Association (INCA) on Geoinformatics For Carto-Diversity and its Management held in Dehradun, Uttarakhand India during November 01-03, 2017.

8. Presented a paper entitled " How fast the glaciers are changing in the western Himalaya: A satellite based temporal assessment" in Geomatrix’11: 2nd National Conference on Geospatial Technologies and Applications conducted by Resources Engineering Association (REA), Centre of studied in resources Engineering (CSRE), IIT Bombay during February 26-27, 2011.

TRAINING ATTENDED

1. Completed ERASMUS+ Workshop on “Geospatial Applications of Satellite Generated Atmospheric & Climatic Data” during 21 March 2022 to 01 April 2022.

2. Completed one week national level Training of Trainers Programme on “Drought Assessment” at National Institute of Disaster Managemnet (NIDM) during 29 January 2018 to 2 February 2018.

3. Participated in online course on “Overiew o RS & GIS Applications in Natural Resource Management” conducted by IIRS, ISRO, Dept. of Space, Govt. of India during November 13, 2017 to December 01, 2017.

4. Participated in online course on “Geoweb Services and Geoportal applications” conducted by IIRS, ISRO, Dept. of Space, Govt. of India during June 28, 2016 to July 15, 2016.

5. Participated in Indian Institute of Geomorphologists (IGI) eighteenth convention and national seminar on Quaternary Climate Changes and Landforms organized by Centre for Geotechnology Manonmaniam Sundaranar University, Tirunelveli during December-26-28, 2005.

6. Completed short term training course in “RISAT-UP Radar Remote Sensing & Applications conducted by Space Application Centre (SAC), ISRO, department of Space, Govt. of India, Ahmedabad during February 14-25, 2011.

7. Eight weeks hands on training course in Desktop Cartography & GIS from Center for Energy & Development Studies (CEDS) in 2003.

8. Certificate course entitled Swift India (COCBT, WINDOWS NT, MS WORD, MS EXCEL, MS POWERPOINT, INTERNET) from NIIT, Kolkata in 2002.

REVIEWER IN INTERNATIONAL JOURNALS

1. Physical Geography
2. Journal of the Indian Society of Remote Sensing
3. International Journal of Remote Sensing
4. Applied Geomatics
5. Environment, Development and Sustainability

PROFESSIONAL MEMBERSHIP

1. Life Member of Indian Society of Remote Sensing (ISRS) //Membership. No-L-4778
2. Life Member of Indian National Cartographic Association (INCA) //Membership. No- LM-2910.

ACADEMIC PROJECTS

1. Evaluating the Geological Geomorphological & Glacier Morphometric control on glacier dynamics in Great Himalayan range (Ladhak) based on multi temporal satellite images in the department of Remote Sensing, B.I.T Mesra, Ranchi as partial fulfillment of M.Tech in Remote Sensing.

2. Study of Environmental and Mining Status of Giral Lignite Deposit in Barmer District, Rajasthan using Satellite Data & Rockworks 2006 in Regional Remote Sensing Service Centre, Dept. of Space (ISRO) Jodhpur as partial fulfillment of PG Diploma in Remote Sensing and GIS.

Final Year B.Sc. and M.Sc. projects:

1. Field Survey to Study "The Relationship Between Physical & Cultural Factors & Their Influence on Socio-economic Conditions of the Area",Panchmari,Madhya Pradesh
2. A geographical Review of Kullu District with special reference to Manali, Himachal Pradesh.
3. Mapping and Analysis of Gender Inequality in Hugli District of 1991 & 2001.

FIELD INSTRUMENT AND SOFTWARE PROFICIENCY

1. Hands on experience in Spectroradiometer, $PM_{10, 2.5}$ monitor, GPS

2. Remote Sensing & GIS Softwares : Erdas Imagine (LPS/Modeler), PCI Geomatica, Ilwis, eCognition, Arc GIS, Arc View, Mapinfo
3. Other Softwares : Origin, Matlab, MS Word, MS Excel, MS Powerpoint.

CRITICAL SKILL

Communication skill; Sincerity; Positive attitude; Decision making.

REFERENCES

1. Dr. RAAJ Ramsankaran
Associate Professor
Photogrammetry & Remote Sensing Division
Department of Civil Engineering
Indian Institute of Technology Bombay
Powai, Mumbai- 400076, India
Mobile: 9920417348
Email: ramsankaran@civil.iitb.ac.in

2. Dr. Sanjay Keshari Das

Assistant Professor
University School of Environment Management
GGSIPU, Sector 16 C, Dwarka, Delhi, 110078
Mobile: 8447252188
Email:skdasipu@gmail.com

PERSONAL INFORMATION

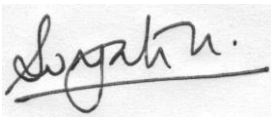
Date of Birth	: 08/02/1981
Sex	: Female
Strengths	: Positive attitude, hard work, Determination, Confidence, Power of decision making
Marital status	: Married
Name of Spouse	: Dr. Kousik Midya
Occupation of Spouse	: Assistant Professor
Nationality	: Indian
Present Address	: Flat No.: 13, Harmony Apartment, C Block, Phase 2 Industrial Area Sector 62, Noida, Uttar Pradesh 201301
Permanent Address	: C/O-Shyam Pada Midya Flat No. 3/A, Nakshatra Estate Ashutoshnagar, Kuikota Dist-Paschim Medinipur West Bengal, Pin-721101

LANGUAGES KNOWN

Bengali, English, Hindi

DECLARATION

I solemnly declare here that all the facts mentioned above are true to the best of my knowledge and belief.



(SWAGATA GHOSH)