

CURRICULUM-VITAE

Personal Information

Name : **DR.FARJANASIKANDAR BIRAJDAR**
Designation : Assistant Professor
Institution : Punyashlok Ahilyadevi Holkar Solapur University
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Date of Birth (Age) : 27March 1986 (35Years)
Gender / Category : Female / General
Nationality / Marital Status : Indian / Married
Physically Handicapped : No



Research Specialization

Earth Sciences / Himalayan Glaciers Dynamics Study, Glacier Fluctuations and Mass Balance / Himalayan Water Resource Fluctuations / Climate Change / Space-based Cryosphere Monitoring and Modelling using Remote Sensing and GIS Technology

Educational Qualification

1. Graduation (B.Sc. in Geology) from Shivaji University, Kolhapur in 2006.
2. Postgraduation (M.Sc. in Geoinformatics) from Savitribai Phule Pune University, Pune, Maharashtra in 2008.
3. Postgraduation (M.Sc. in Applied Geology) from Punyashlok Ahilyadevi Holkar Solapur University, Maharashtra in 2020.
4. PhD (Geology) from University of Mumbai, (Mumbai) / IIT Bombay (Mumbai) in 2017

PhD Thesis Details

Title : Temporal and Spatial Variability of Himalayan Glaciers in Chandra-Bhaga Basin, Himachal Pradesh, India
Field / Skills Covered : Geology / Glaciology (Glacier Inventory, Snow Cover Mapping, Glacier Fluctuations, Glacier Mass Balance Modelling)
University (Research Inst. – Work Place) : University of Mumbai, Mumbai - 400001, Maharashtra
(Indian Institute of Technology Bombay, Powai– 400076, Maharashtra)
Supervisors : Dr. Hrishikesh Samant, Associate Professor and Head, Department of Geology, St. Xavier's College- Autonomous, University of Mumbai, Maharashtra
Dr. Gopalan Venkataraman, Adjunct Professor, Centre of Studies in Resources Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra
Awarded Year : 2017

Work Experience

1. Assistant Professor at Department of Geoinformatics, School of Earth Sciences, Punyashlok Ahilyadevi Holkar Solapur University, since 01 September 2021 till present

2. DST-Women Scientist at Indian Institute of Technology Bombay, Mumbai, Maharashtra from 01 July 2015 to 27 June 2018.
3. Research Scholar (Junior Research Fellow /Senior Research Fellow) at Indian Institute of Technology Bombay, Mumbai, Maharashtra from 09 June 2009 to 30 March 2015.

Publications

1. Bandyopadhyay, D., Singh, G., **Birajdar, F.** (2018): Remote sensing analysis of changes in Chorabari glacier, Central Himalaya, India. *Current Science*, 114 (4), 771-775.
2. **Birajdar, F. S.**, Venkataraman, G., and Samant, H.P. (2015): Frontal Recession of Glacier and Proglacial Lake Expansion in the Western Himalaya Over the Past Half-Century. *Journal of Environmental Research and Development*, 9(4), 1234-1239.
3. **Birajdar, F. S.**, Venkataraman, G., Samant, H.P. (2015): Glacier changes in the Bhaga Basin of Western Himalaya derived from Remote Sensing and GIS techniques. *Journal of Indian Geological Congress*, 7(1), 75-78.
4. Shaikh M.A.J., **Birajdar F.S.** (2015). Anticipation of Water Scarcity Impacted Areas and Duration: A Case Study of Osmanabad District, Maharashtra, India. *International Journal of Latest Technology in Engineering, Management & Applied Science*. Volume IV, Issue III, 1-5
5. Shaikh M.A.J, **Birajdar F. S.** (2015). Analysis of watershed characteristics using remote sensing and GIS techniques. *International Journal of Innovative Research in Science, Engineering and Technology*. Volume IV, Issue IV, 1971-1976.
6. Shaikh M.A.J, **Birajdar F. S.** (2015). Mapping of Water Scarce Zones of Osmanabad District by Analysis of Groundwater Levels and Rainfall. *International Journal of Innovations in Engineering and Technology*. Volume 5 Issue 2, 254-262.
7. Shaikh M.A.J, **Birajdar F. S.** (2015). Mapping of feasibility of groundwater for drinking water zones of Akkalkot Taluk, Solapur, India using GIS techniques. *International Journal of Science and Research*. Volume 4 Issue 4, 1709-1713.
8. Kesarwani, K., Dobhal, D.P., Singh, J., Gairola., A., **Birajdar, F.**, Mehta, M., Karakoti, I., and Durgapal, A. (2015): Wind Induced climate and its influence on the surface ablation of Debris-covered glaciers. *Journal of Wind Engineering*, 12 (1), 21-29.
9. **Birajdar, F. S.**, Venkataraman, G., Bahuguna, I.M., Samant, H.P. (2014). A revised glacier inventory of Bhaga basin Himachal Pradesh, India: Current status and recent glacier variations. *ISPRS-Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, II(8), 37-43.
10. **Birajdar, F. S.**, Venkataraman, G., Samant, H.P. (2014): "Monitoring Snow Cover using Different Algorithms on Indian Remote Sensing Data, Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment: Challenges, Processes and Strategies, N.J. Raju (ed.), Springer, 436-438. DOI 10.1007/978-3-319-18663-4_136.
11. Singh, G., **Birajdar, F.** (2011): Contributed to Encyclopaedia of Snow, Ice and Glacier. Editors: Vijay P. Singh, Pratap Singh and Umesh K. Haritashya, page numbers 201, 239, 240, ISBN: 978-90-481-2641-5. Springer.
12. **Birajdar, F. S.**, Azmi, S. Inamdar, A., Sengupta, A., Sinha, A.K. (2009): Impact of Climate Change on Agriculture Wetland Mapping and Study of Temporal Changes in Correlation with Meteorological Data for Solapur Districts of Maharashtra Using Remote Sensing and GIS Techniques, *ISPRS Archives XXXVIII-8/W3*, 381-384.

Presentations

1. **Algorithm based Snow Cover Area estimation using Indian Remote Sensing Data: A case study of Chandra Basin, Himachal Pradesh, India.** National Conference on Himalayan Cryosphere (NCHC-2017) January 23-24, 2017, Bengaluru, India.
2. **Temporal and Spatial Variability of Himalayan Glaciers in Chandra-Bhaga Basin, Himachal Pradesh, India.** University of Mumbai, Maharashtra, 10 June 2016.
3. **Algorithm Based Snow Cover Area Estimation of Chandra Sub Basin Western Himalaya, India.** Geospatial World Forum, Lisbon congress Centre, Portugal, 25-29 May 2015.
4. **Temporal and spatial variability over the glacierized regime of Bhaga basin, western Himalaya, India, during the past half century (1963–2013).** International Glaciological Society, Kathmandu, Nepal. March 01-06, 2015.
5. **Frontal Recession of Glacier and Proglacial Lake Expansion in The Western Himalaya Over The Past Half-Century.** Environmental Research And Development, Bangalore, Karnataka December 26-28, 2014.
6. **A Revised Glacier inventory of parts of western Himalaya, India: current status and recent glacier variations.** International society of photogrammetry and remote sensing, Hyderabad, December 09-12, 2014.
7. **Glacier changes in the Bhaga Basin of Western Himalaya derived from Remote Sensing and GIS techniques.** Indian Geological congress, Itanagar, 27-29 November 2014.
8. **Monitoring Snow Cover using Different Algorithms on Indian Remote Sensing Data.** 16th Annual-International Association of Mathematical Geosciences (IAMG) conference on Geostatistical and Geospatial approaches for the characterization of natural resources in the environment: challenges, processes and strategies organized by Jawaharlal Nehru University, New Delhi, 17-20 October, 2014.
9. **Utilization of Optical & Microwave Satellite Records for Monitoring Gangotri Glacier, Central Himalaya, India, during past 50 years (1962-2012).** National Conference on Himalayan Glaciology-2014 organized by H.P. State Centre on Climate Change, Shimla, Himachal Pradesh, 30-31 October, 2014.
10. **Glacier changes in the Bhaga Basin of Western Himalaya during the past 50 years based on temporal analysis of remotely sensed data.** Geospatial world Forum 2014, CIGG Geneva, Switzerland, May 05-09, 2014.
11. **Remote Sensing and GIS Applications in Monitoring of Bhaga Basin Glaciers of Himalaya region** Karnataka State Remote Sensing Application Centre, Bangalore 2012
12. **Change Detection of Kelas Buk Glacier of Himalaya region using Active and Passive Remote Sensing Data".** Geomatrix12 Indian Institute of Technology Bombay, Mumbai, 2012.
13. **Applications of Remote Sensing and GIS Techniques in Classification of Wetlands of Goa state.** *Geomatrix12*, Indian Institute of Technology Bombay, Mumbai, 2012.
14. **Remote Sensing Based Glacier Lake Inventory of Chandra-Bhaga Basin Of Himalaya Region.** Andhra Pradesh Geographical Society, Hyderabad, 2012.
15. **Scaling issues in correlating Ground based and satellite-based observations over Himalayan regions.** Snow & Avalanche Study Establishment, Manali, Himachal Pradesh, 2012
16. **Delineations of Glacier Boundary and Retreat using X-Band TerraSAR-X data.** DLR, Germany 2011
17. **Remote Sensing and GIS Applications in Monitoring of Himalayan Glaciers.** Indian Society of Remote Sensing, Bhopal, India, 2011.
18. **Mapping and Change Detection of Wetlands of Thane District Using Remote Sensing and GIS Techniques.** Indian Society of Remote Sensing, Bhopal, India, 2011.
19. **Glacier Feature extraction using Remote Sensing and GIS techniques.** *Geomatrix11*, Indian Institute of Technology, Bombay, Maharashtra, India, 2011.
20. **Wetland Inventory and Assessment of Goa State using Remote Sensing Techniques.** *Geomatrix09*, Indian Institute of Technology Bombay, Bombay, Maharashtra, India, 2009

Professional Trainings

1. **Snow Studies, Climate Change and Remote Sensing** (December 12-23, 2011) organized by Indian Institute of Science (IISc), Bangalore, India. (Skills covered: Snow and Glacier studies, Climate Change & Application of Remote Sensing in Glaciology).
2. **Field Training Course in Glaciology** (August 07 –September 03, 2012) organized by Geological Survey of India (GSI), Lucknow, Uttar Pradesh, India. (Skills covered: Glacier Mass Balance, Meteorology, Hydrology and Geomorphology, Mountaineering).
3. **Special Training Course on Geo-informatics for Meteorology and Climatology Applications** (November 18-29, 2013) organized by Indian Institute of Remote Sensing (IIRS), Dehradun, Uttarakhand, India. (Skills covered: Application of Remote Sensing in Glaciology, Satellite Meteorology and Climatology).

Instrumentation / Software Skills

1. Snow Fork for estimation of Physical properties of snow (snow dielectric constant, wetness, density and temperature)
2. Spectro-Radiometer for snow reflectance and spectral radiance
3. ArcGIS, ERDAS Imagine, Envi, ArcView, Matlab, Grapher, Origin 8.5, Corel Draw, MS-Excel, MS-Office.

Working Experience in High-Altitude Glacier Field Environment

1. Worked in the high altitude glacierized terrain of the Western parts of the Indian Himalaya more than about 8 years.
2. Carried out various Glaciological Field Expeditions to some of the thickly debris-covered glaciers of the Indian Himalaya (Himachal Pradesh -Hamtah, Chhota Shigri, Samudra Tapu, Gepang Gath, Panchinala and Patsio).

Experience of High-Altitude Glacier Field Data Collection

1. Glacier profile measurements in terms of elevation, coordinates, glaciological features, glacier lake monitoring

Membership of Professional Societies

1. Indian Society of Remote Sensing (Registration No. L3806 Level of Membership: Lifetime)

Academic visit to Abroad

Duration : March 01 - 06, 2015
Country Visited : Nepal
Purpose : International Symposium on 'Glaciology In The High Mountain Asia

Awards / Honours / Prizes

1. **Best Research Paper Award** in International Conference on Spatial Technologies at National Institute of Rural Development, Hyderabad, 5-7 January 2012
2. Recipient of **Rachapudi Kamakshi Memorial Gold Medal** for '**Young Geospatial Scientist 2012**' from Rachapudi Kamakshi Memorial Trust.
3. Recipient of **Kalpna Chawala Memorial Award** for best paper presentation in an international conference organized by Andhra Pradesh Geographical Society, Hyderabad 2012.

4. Recipient of **DST-Woman Scientist Award** for completing the PhD to Study the dynamics of Himalayan Glaciers upto (~) 03 years (2015-2018) from the Department of Science and Technology, Government of India, New Delhi, India.
5. Recipient of Travel Grant under **International Travel Support-2015** scheme from the Department of Science and Technology, New Delhi, India.
6. Recipient of **Research Fellowship** from Indian Space Research Organization (ISRO) for Snow and Glacier in the Himalayan Region (2009-2015).

Referees (Type)

- 1) Dr. Dhaval Kulkarni (Mentor)
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- 2) Prof. Gopalan Venkataraman (PhD Supervisor)
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- 3) Dr. Hrishikesh Samant (PhD Supervisor)
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Declaration

I hereby declare that all the provided information is true to the best of my knowledge.

Place :Mumbai, Maharashtra, India

Date :31/12/2021



(Farjana Birajdar)