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Looking forward to work in a challenging and enriching environment that provides generous opportunities to understand urban climate with all its complexity to make urban living a beautiful reality rather than a health destroyer and money abductor for all groups of society.

Professional Profile

Ph.D. Research Scholar working on the "Influence of urban morphology on the local urban climate of a sub-tropical megacity Delhi" with two sub-objectives of 'understanding the relationship of Surface Urban Heat Island and Canopy Urban Heat Island using network of low-cost sensors' and ' understanding variability of Urban Heat Island in Local climate Zones of Delhi'. The research work is guided by Dr. Girish Agarwal from Shiv Nadar University, Uttar Pradesh and co-guided by Dr. Prasad Pathak from Flame University, Pune.

Academia

- Pursuing Ph.D. in Civil Engineering, Shiv Nadar University
- M.Sc. (Geoinformatics) ,TERI University, New Delhi ,2014, CGPA 9.53
- B.Sc. Chemistry (H) ,Miranda House ,Delhi University ,New Delhi ,2012,65.5%

Technical Skills

- Digital Image Processing (DIP) and Geographical Information System (GIS)- ArcGIS Desktop 10.3/10/9.3, QGIS 2.18.15, SAGA GIS 2.1.2, Opticks 4.9.1, Weka, Google Earth Engine, ERDAS Imagine 10.1/9.1/9.3 ,ENVI 4.7 , eCognition
- Urban climate service tool – Urban Multi-Scale Environmental Predictor (UMEP) and Urban Weather Generator (UWG)
- Statistical Analysis – Origin, Matlab, MINITAB, Staad Pro
- Intermediate level of 'R' and Python
- Building Energy simulation program – EnergyPlus
- 3D modelling software – SketchUp, Esri CityEngine
- Server – GeoServer 2.1.3
- Programming languages : C++, SQL and Q-Basic
- Microsoft Visual Studio 2010 (Visual C++ in .Net Framework) , OpenCV
- Digital Photogrammetry- Leica Photogrammetric Suite (LPS 9.3)

Journal Publications

- Bakul Budhiraja, Prasad Pathak and Debopam Acharya, "*Studying Surface and Canopy Layer Urban Heat Island at spatiotemporal scale using multi-sensor data in Geographic Information Systems*", *International Journal of Applied Geospatial Research (IJAGR)*, Volume 9 No. 4, October 2018
- Submitted – Bakul Budhiraja, Lech Gawuc and Girish Agarwal, "*Multisensor observations of Surface Urban Heat Island in Delhi - determination of intensity using Local Climate Zones and indicators*", October 2017

Conference papers and proceedings

- Bakul Budhiraja, Prasad Pathak and Girish Agarwal, "*Spatio-temporal variability of urban heat islands in local climate zones of Delhi-NCR*", SPIE Remote Sensing 2017 (Warsaw, Poland); *Remote Sensing Technologies and Applications in Urban Environments II*, Volume 10431, 1043110 (2017); doi: 10.1117/12.2280253. [Poster presentation and proceedings] (Awarded Partial student funding by SPIE) <http://dx.doi.org/10.1117/12.2280253>
- Bakul Budhiraja, Prasad Pathak and Girish Agarwal, "*Urban Heat Island Dynamics In Local Climate Zones Of Delhi*", *International Conference on Urban Geoinformatics*, TERI University, Delhi, February 2017. [Poster presentation]
- Bakul Budhiraja, Prasad Pathak, "*GIS in Building Energy Management System*", *GeoSmart India Conference - Youth Forum*, Greater Noida, March 2016. [Oral presentation]
- Prasad A. Pathak, Bakul Budhiraja and Deepika Mann, "*Integrating Smart Platforms to Analyze Energy Patterns in Academic Building*", *Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment Book*, pp.823-827, January 2016. https://doi.org/10.1007/978-3-319-18663-4_127 [Poster presentation and proceedings]

Workshops

- Conducted a tutorial on "*Urban Heat Island Effect: analysis and verification of large volumes of heterogeneous data collected at high velocity*", *Big Data Conference*, Hyderabad, December 2017 with Girish Agrawal, Prasad Pathak and Raja Sengupta
- Attended a workshop on '*Urban Form and Public Health*', *University of Chicago Delhi centre*, November 2017
- Attended "*International Training Course on Urban Meteorology, Environment and Climate Services*" organised by *University of Reading and WMO*, held in *University of Reading, Malaysia campus* (28 August to 8 September 2017). Awarded full funding by *World Meteorological Organisation (Geneva)* and selected as representative of *India* (among 13 countries)
- Completed "*Google Earth Engine Workshop*" at *Google, Hyderabad, India*, May 2017
- Organized "*Training Programme on Geospatial Technologies and Applications*" sponsored by *DST-NRDMS at Shiv Nadar University*, March 2017

Projects

- Currently working on "*Urban Heat Island effect and building energy demand: linkages explained using a dense, low-cost sensor network*" in collaboration with *McGill University, Laval University from Canada and TERI University, Nalanda University and SNU from India*, funded by *IC-Impacts (Canada) and Department of Science & Technology (India)*, July 2017

- Currently working on "*Adapting new technologies to address society's most pressing problems in energy, environment and public health*" in collaboration with the University of Chicago, Dr Girish Agarwal is heading the project at SNU, July 2017
- Part of a project titled "*Human Sense: Towards context-aware sensing, inference and actuation for applications in Energy and Healthcare*" - collaboration project of IIITD, IGIT and SNU, funded by Department of Electronics and IT (DeitY), January 2014 - September 2016
- Part of a project titled "*Safe Space for Women to be physically active in Greater Noida - A mixed method approach*" - collaboration project of SNU and Duke University, 2016

Awards

- Best Student Poster Presentation Award for presenting a paper on "*Urban Heat Island Dynamics in Local Climate Zones of Delhi*" at International Conference on Urban Geoinformatics, TERI University, Delhi, February 2017

Personal Details

Date of Birth : 29th June, 1991
 Contact Address : Room No. 229, Hostel 2CX, Shiv Nadar University, NH-91,
 Tehsil Dadri, Gautam Buddha Nagar, Uttar Pradesh -201314
 Permanent Address : House No. 307, Block-11, Geeta Colony, Delhi 110 031
 Telephone (R) : +91-95827 57529
 Languages Known : English & Hindi
 Hobbies : Inclination towards reading, art, spiritual activities and travelling

References

1. Dr. Prasad Pathak ([Profile](#)), Assistant Professor, School of Ecology and Environment Studies Department of Civil engineering, Nalanda University, Bihar, India.
 Email Id - p.pathak@nalandauniv.edu.in
- Dr. Girish Agrawal ([Profile](#)), Associate Director (Strategy and Planning), Department of Civil Engineering, School of Engineering, Shiv Nadar University, Uttar Pradesh, India.
 Email Id - girish.agrawal@snu.edu.in