Prakhar Misra

Project Researcher, The University of Tokyo

Education

2015–2018 **PhD in Civil Engineering (Remote Sensing), The University of Tokyo, Japan**,
Thesis: Analyzing Impact of Socio-economic Growth and Land-use Change on Urban Air quality in India, Advisor: Dr. Wataru Takeuchi.

2008–2013 **B.Tech.-M.Tech (Dual degree) in Civil Engineering, Indian Institute of Technology, Kanpur (IIT), India**,
Thesis: Multi-resolution Segmentation Based Classification of Polarimetric SAR Imagery, Advisor: Dr. Onkar Dikshit.

Experience

2018/10 - **Institute of Industrial Science**, The University of Tokyo, *Project Researcher*.
present Researching agromet cross comparison and validation for rice crop outlook in Thailand

2015/10 - **Sony Computer Science Laboratories**, Tokyo, Japan, *Research Assistant*.
2016/12 Analyzed energy exchange efficiency in 'Open Energy System' for decentralized PV grid

2013/09 - **Inductis**, New Delhi, India, *Consultant*.
2015/02 Predictive modelling of unsecuritized credit risk using financial Big Data for Barclays Bank. Awarded 'Best Team'and 'Star Performer'

2011/05 - **Bharat Petroleum Corporation Limited**, Mumbai, India, *Technical Assistant*.
2011/06 Performed energy audit and feasibility study for solar-wind powered renewable energy plant

Peer-reviewed publications

○ Minh HVT, Avtar R, Mohan G, Misra P, Kurasaki M; Monitoring and Mapping of Rice Cropping Pattern in Flooding Area in the Vietnamese Mekong Delta Using Sentinel-1A Data: A Case of An Giang Province *ISPRS International Journal of Geo-Information*, Vol 8, 2019.

○ Misra P, Avtar R, Takeuchi W; Comparison of digital building height models extracted from AW3D, TanDEM-X, ASTER and SRTM digital surface model over Yangon city. *Remote Sensing*, Vol 10, 2018.

○ Misra P, Fujikawa A, Takeuchi W; Novel Decomposition Scheme for Characterizing Urban Air Quality with MODIS. *Remote Sensing*, Vol 9, 2017.

○ Misra P, Takeuchi W; Air Quality Analysis Using Nighttime Light for Indian Urban Regions. *Malaysian Journal of Remote Sensing and GIS*, Vol 5:2, 2016.

Conference publications

○ Sovisoth E, Thakur VB, Nagai K, Misra P, Takeuchi W; Estimation of the bridge construction year in Cambodia by the analysis of LANDSAT satellite data. *3rd ACF Symposium*, Sapporo,

Japan, 2019.

○ Arbain A, Imasu R, Misra P, Takeuchi W; Estimating $PM_{2.5}$ Emission from Brick Kiln Industry over Northern India with Numerical Model and Remote Sensing Observation. *EGU General Assembly*, Vienna, Austria, 2019.

○ Misra P, Takeuchi W; Use of Google Trends for Assessing Sensitivity of Population to Urban Air Pollution. *26th International Symposium on Remote Sensing*, Taipei, Taiwan, 2019.

○ Misra P, Takeuchi W; Analyzing perception of urban air pollution using Google Trends and satellite datasets. *27th Institute of Industrial Science Forum Proceedings*, Tokyo, Japan, 2019.

○ Misra P, Takeuchi W; A Novel Technique For Estimating Expansion Of Residential, Commercial And Industrial Regions In Indian Megacities. *17th International Symposium on Urban Safety Of Mega Cities In Asia*, Hyderabad, India, 2018.

○ Misra P, Imasu R, Takeuchi W; Land-use Change Impacts on Urban Air Quality in India using Hierarchical Bayesian Approach. *39th Asian Conference of Remote Sensing*, Kuala Lumpur, Malaysia, 2018.

○ Ochi S, Misra P, Takeuchi W; Spatiotemporal Distribution Of Hotspot / Wildfire In Southeast Asia Using Remote Sensing Data. *39th Asian Conference of Remote Sensing*, Kuala Lumpur, Malaysia, 2018.

○ Misra P, Takeuchi W; Hierarchical Bayesian approach to estimate land-use change impacts on urban air pollution in India. *26th Institute of Industrial Science Forum Proceedings*, Tokyo, Japan, 2018. **Best student Award**.

○ Misra P, Takeuchi W; Digital Surface Model (DSM) datasets for built-height estimation over Indian cities. *24th International Symposium on Remote Sensing*, Nagoya, Japan, 2017.

○ Misra P, Takeuchi W; Comparison of ASTER and AW3D derived Digital Surface Model datasets for built structure height estimation over Yangon city, Myanmar. *25th Institute of Industrial Science Forum Proceedings*, Tokyo, Japan, 2017.

○ Misra P, Takeuchi W; Assessing Impact of Economic Activities on Urban Air Quality in India by Nightlight and Atmospheric Measurement Datasets. *37th Asian Conference of Remote Sensing*, Colombo, Sri Lanka, 2016.

○ Misra P, Takeuchi W; Air Quality Analysis Using Nighttime Light for Indian Urban Regions. *8th IGRSM International Conference and Exhibition on Geospatial & Remote Sensing* , Kuala Lumpur, Malaysia, 2016.

○ Misra P, Takeuchi W; Analysis Of Air Quality In Indian Cities Using Remote Sensing And Economic Growth Parameters. *36th Asian Conference on Remote Sensing*, Manila, Philippines, 2015.

Presentation and seminars

○ Misra P, Takeuchi W; Comparison of Remote Sensing derived KBDI with Soil-moisture in Thailand. *JAXA-GISTDA mini workshop on drought monitoring*, Bangkok, Thailand. (2019/02/06)

○ Misra P; Observations from Mapping PM2.5 in Indian Cities using Low-cost sensor. *1st IITK-UTokyo Workshop on PM2.5 Mapping using Low-cost Sensors*, Kanpur, India. (2019/02/06)

○ Misra P, Takeuchi W; Role of satellite for monitoring urban air quality. *1st IITK-UTokyo Workshop on PM2.5 Mapping using Low-cost Sensors*, Kanpur, India. (2019/02/07)

○ Misra P; GEE as educational tool in Civil Engineering. *Google Earth Engine Year-end Meetup in Tokyo*, Tokyo, Japan. (2018/12/26)

○ Misra P, Takeuchi W;, Impact assessment of socio economic development on urban air quality in Indian megacities *NASA LCLUC SARI International Regional Science Meeting*, Chiang

Mai,Thailand. (2017/08)

Technical Report

○ Misra P, Sharma R; India's GAGAN (GPS-aided GEO augmented navigation) adds a new dimension to navigation. *GIM International*, Vol. 27(2) 2013.

Workshops and training organized

2019/05/15 **Suranaree University of Technology, Nakhon Ratchaseema, Thailand** Air quality monitoring and mapping with portable devices

2019/04/27 **4th Open Science Meeting, Global Land Program, Bern, Switzerland** Hands-on-training session on evaluating three-dimensional urban expansion in mega cities in Asia

2019/04/18 **26th International Symposium on Remote Sensing - ISPRS TC-W/8 Tutorial, Taipei, Taiwan** Remote Sensing Applications using Google Earth Engine

2019/02/05 - **1st IITK-UTokyo Workshop on PM$_{2.5}$ Mapping using Low-cost Sensors, IIT**
2019/02/07 **Kanpur, India** Citizen science workshop to trained volunteers to map geolocated individual exposure to PM 2.5 using low-cost devices.

2019/03/07 - **27th IIS Forum, The University of Tokyo, Tokyo, Japan** Classifying Land-
2019/03/08 sat8 imagery using Google Earth Engine

2019/06/04 **Indian Institute of Technology-BHU, Varanasi, India** Classifying Landsat8 imagery using Google Earth Engine and demonstration of portable PM$_{2.5}$ sensors

2018/03/07 - **26th IIS Forum, The University of Tokyo, Tokyo, Japan** Google Earth
2018/03/08 Engine for Landsat imagery classification

Teaching

(*team-teaching, +teaching-assistant)

2019/01 **Satellite Image Processing for Remote Sensing Applications ***, *Seoul National University*.

2018, 2017 **Remote sensing (3713-089) ***, *The University of Tokyo*.

2013/01 **Precision Remote Sensing (CE676) +** , *IIT Kanpur*.

2012/08 **Environmental Quality and Pollution (CE361) +** , *IIT Kanpur*.

Fellowship and grants

2019 International research meeting dispatch grant (IIS), JPY 365,000; (Declined)

2015 Japanese Government (MEXT) Scholarship; tuition and stipend

2009 Incentive Scheme for Meritorious Children by State Bank of India; stipend

2006 National Talent Search (NTSE) Scholarship by Government of India; stipend

Technical skills

Programming Python, R, MATLAB, C, SQL, VBA, SAS

Tools Google Earth Engine, QGIS, SNAP, ArcGIS, ENVI, TerraScan, GDAL

Professional service

Reviewer   MDPI Remote Sensing; Elsevier Resources Conservation and Recycling; Springer Sustainability Science

Social service

2016-'17   Vice-president, University of Tokyo Indian Students' Association

June'16   Global Health Entrepreneurship Program for improving health in Onagawa, Miyagi

May'15   Student volunteer, Empowerment Program Ibaraki High School, Mito City

2014–'15   SPOC, NGO for underprivileged Udayan Care, Gurgaon, India

2009-'10   Student guide, Institute Counselling Service, IIT Kanpur