Dr. MONISH DESHPANDE

POSTDOCTORAL FELLOW: AGRICULTURAL REMOTE SENSING

INFO

Address

4024, SEAS, Dana Building, 440 Church street, Ann Arbor, Michigan, USA. 48109

Phone

+1 (734)-596-9444

Email

monish.v.deshpande@gmail.com

Languages

English ★ ★ ★ ★ ★
Marathi ★ ★ ★ ★ ★
Hindi ★ ★ ★ ★ ★
German ★ ★ ☆ ☆ ☆

TECHNICAL SKILLS

- GIS :ArcGIS, QGIS, ArcMap, ArcCatalog
- Cloud platform :Google Earth Engine, Google CoLab
- Programming :JAVA, Matlab, Python
- Image processing: Geomatica, Erdas imagine
- Office :Word, Power Point, Excel, Photoshop, LaTex

EDUCATION

Doctor of Philosophy (Dec, 2019-2024)

"Potential of using additional constraints from satellite observations to determine Indian GHG budget"

Indian Institute of Science Education and Research, Bhopal, India

Advance Diploma (2012-2013)

Remote Sensing and GIS

University of Mumbai, India

Master of Science (2010-2012)

Environmental Sciences

University of Mumbai, India

SUMMARY

"Remote sensing professional with over 10+ years of experience in environmental and agricultural applications. Skilled in satellite image processing, geospatial technologies, and machine learning, with a focus on sustainable solutions for environmental and agricultural policies. Committed to integrating cutting-edge technologies and applying innovative teaching methodologies to drive knowledge sharing"

RESEARCH EXPERIENCE

2024 Postdoctoral Fellow *at Jain's Lab, University of Michigan, USA*
From April 2024 - Present
"Developing innovative solutions to accurately estimate sow dates and crop yields for smallholder farmers in Zambia and India using satellite remote sensing and machine learning"

2022 **Visiting Researcher** *at SEAS, University of Michigan, USA*
From September-November 2022
"Developed a novel method using Sentinel-2 imagery, Random Forest, and Google Earth Engine to detect tillage adoption."

2018 **Max Plank Junior Research Fellow** *at GMA, IISER Bhopal, IN*
From September-December 2018
"Conducted comprehensive analysis of GHG emissions in India, integrating GHG satellites observations with WRF-GHG model simulations."

2016 **GIS Consultant** *at CES, NITIE (Now IIM Mumbai), IN*
From July-December 2016
"Delivered expert GIS solutions for diverse projects including mangrove conservation, wastewater management, and clean development mechanisms."

ACADEMIC EXPERIENCE

2017-2018 **Guest Faculty of Environmental Studies and FC**
Dept. of B.Com and Dept, of B.A&F,
S.M. Shetty College of Commerce, Powai, India

2017-2017 **Assistant Professor of Environmental Studies**
Dept. of Science and Humanities,
A. C. Patil College of Engineering, Kharghar, India

2014-2016 **Assistant Professor of Environmental Studies**
Dept. of Science and Humanities,
K. J. Somaiya College of Engineering, Vidyavihar, India

2012-2014 **Lecturer of Environmental Sciences,**
M. Sc. Environmental Science,
Birla College of arts, Science and Commerce, Kalyan, India

SCIENTIFIC PUBLICATIONS

2024 **Deshpande, M. V.,** Pillai, D., Krishna, V. V., & Jain, M. (2024). Detecting and quantifying zero tillage technology adoption in Indian smallholder systems using Sentinel-2 multi-spectral imagery. International Journal of Applied Earth Observation and Geoinformation, 128, 103779.https://doi.org/10.1016/j.jag.2024.103779

2023 **Deshpande, M. V.,** Kumar, N., Pillai, D., Krishna, V. V., & Jain, M. (2023). Greenhouse gas emissions from agricultural residue burning have increased by 75% since 2011across India, Science of The Total Environment, 904, 166 944, 2023. https://doi.org/10.1016/j.scitotenv.2023.166944

2022 **Deshpande, M. V.,** Pillai, D., & Jain, M. (2022). Agricultural burned area detection using an integrated approach utilizing MultiSpectral Instrument based fire and vegetation indices from Sentinel-2 satellite. MethodsX, 101741.https://doi.org/10.1016/j.mex.2022.101741

2022 **Deshpande, M. V.,** Pillai, D., & Jain, M. (2022). Detecting and quantifying residue burning in smallholder systems: An integrated approach using Sentinel-2 data. International Journal of Applied Earth Observation and Geoinformation, 108, 102761. https://doi.org/10.1016/j.jag.2022.102761

CONFERENCE PRESENTATIONS

2023 **Deshpande, M. V.**, Kumar, N., Pillai, D., Krishna, V. V., Jain, M.,: Detecting and quantifying emissions from rice-wheatresidue burning over Indo-Gangatic Plain (IGP): an integrated approach using MODIS satellite data. AGU 2023 meeting, San Francisco, CA, 11-15 December 2023.

2022 Krishna V., Pillai D., **Deshpande M. V.**,: Air pollution, crop residue burning and diffusion of sustainable agricultural practices, North-East Research Conclave (NERC) 2022 at IIT Guwahati, Guwahati, India. May 20-22, 2022

2014 **Deshpande M. V.**, Rao G. V., Maurya A.,: Change detection analysis of mangrove vegetation cover in thane region from 2008 to 2012 using GIS and Remote Sensing, Geomatrix'14, National Conference on application of Geo-Informatics in Rural, Urban and Climatic Studies, 6-7 June 2014, IIT Bombay, Mumbai, India.

2013 **Deshpande M. V.**, Singh A., Patil V.: Assessment of watershed area of Tanasa, Bhatasa and Modak Sagar reservoirs using Remote Sensing and GIS, International Conference on Interdisciplinary Applications in Remote Sensing and Geographical Information System, 26-27 Apr 2013, K. J. S. C. of Sci. & Com., Mumbai, pp-99

2011 Khale P., **Deshapnde M. V.**, Singh A., Unnikrisnan S., Naike N.: To Study change detection of mangroves aligning estuary of Ulhas River using GIS & Remote Sensing, Climate Change, Oil Spill & Radiation Risk: New Environmental Challenges, 15-16 Nov 2011, NEERI Mumbai, Mumbai, India

CONFERENCES AND WORKSHOPS

2022 **North-East Research Conclave (NERC) 2022** at IIT Guwahati, Guwahati, India. May 20-22, 2022

2019 **Lecture series on Inverse problems in GHG** at Indian Institute Of Tropical Meteorology (IITM), Pune, India. February 04-08, 2019

2014 **Geomatrix'14, National Conference on application of Geoinformatics in Rural, Urban and Climatic Studies** at IIT Bombay, Mumbai, India. June 6-7, 2014

2013 **International Conference on Interdisciplinary Applications in Remote Sensing and Geographical Information System** at K.J. Somaiya College of Science and Commerce Mumbai, India. April 26-27, 2013

2011 **Climate Change, Oil Spill & Radiation Risk: New Environmental Challenges** at NEERI Mumbai, Mumbai, India. November 15-16, 2011

REFERENCES

Dr Dhanyalekshmi Pillai
Associate Professor
Dept. of Earth and Environmental Sciences, Indian Institute of Science Education and Research, Bhopal, Madhya Pradesh, India. 462066
Email: dhanya@iiserb.ac.in

Dr Vijesh V. Krishna
Principal Scientist
International Maize and Wheat Improvement Center (CIMMYT), ICRISAT Campus, Hyderabad, India. 502324
Email: V.KRISHNA@cgiar.org

Dr. Meha Jain
Associate Professor
School of Environment and Sustainability, University of Michigan, Ann Arbor, Michigan, USA. 48109
Email: mehajain@umich.edu