Rajendra Kumar Joshi

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EDUCATION

Jawaharlal Nehru University, School of Environmental Sciences

PhD Forest ecology — New Delhi, India

"Changes in ecosystem carbon and nutrient dynamics and plant ecophysiological traits during secondary succession in forests and abandoned agriculture fields in the central Himalaya" — Expected December 2021.

Advisors: Professors Satish Chandra Garkoti

Kumaun University — Nainital, India

M.Sc Botany — July 2008

B.Sc Life Sciences — July 2006

RESEARCH EXPERIENCE

Jawaharlal Nehru University, School of Environmental Sciences — New Delhi, India

Graduate Researcher with Prof. Satish Chandra Garkoti — 2014-Present

"Scope of enhancing carbon sequestration by oak forest in central Himalaya" & "Changes in ecosystem carbon and nutrient dynamics and plant ecophysiological traits during secondary succession in forests and abandoned agriculture fields in the central Himalaya"

- Litter dynamics, leaf area index and forest floor respiration as indicators for understanding the role of Nepalese alder in white oak forests in central Himalaya, India
- Influence of Nepalese alder on soil physico-chemical properties and fine root dynamics in white oak forests in the central Himalaya, India
- Dynamics of ecosystem carbon stocks in a chronosequence of nitrogen-fixing Nepalese alder (*Alnus nepalensis* D. Don.) forest stands in the central Himalayas

CSIR-National Environmental Engineering Research Institute, Nagpur Maharashtra India

Environmental Impact and Sustainability Division

Project Assistant (III) with Dr. Shalini Dyani 27-01-2014 to 15-08-2014.

- Environmental impact assessment of biological component flora project entitled "Study the cumulative effect of large number of power plant and coal mine in Singrauli district Madhya Pradesh
- Environmental impact assessment of biological component project entitled "Environmental impact and risk assessment for the Proposed Excel solvent spun cellulosic fiber (109500 TPA) in Kharach, Bharuch district, Gujarat

G.B. Pant 'National Institute of Himalayan Environment'(NIHE), Arunanchal Pradesh India

North-East Regional Centre

Project fellow With Dr Shivaji Choudary project entitled "Inventorization and Monitoring of Biosphere reserve (Dibru-Saikhowa biosphere reserve) in India using remote sensing and GIS technology**"** 24-08-2011 to13-01-2014

- Tree species diversity and biomass carbon assessment in undisturbed and disturbed tropical forests of Dibru-Saikhowa biosphere reserve in Assam North-East India

- Monitoring the land use land change by using remote sensing and GIS

PROFESSIONAL EXPERIENCE

Members of organizer committee of "Tropical Ecology conference 2014

SKILLS

- Proficient in statistical analysis and software (R, SPSS and AMOS)
- Basic use of Geographic Information Systems and related software (ArcGIS)

- Plant, soil and microbial biomass nutrient analysis (Carbon, Nitrogen and Phosphorus)
- Tree eco-physiology traits measurements by portable infrared gas analyser (IRGA) (Li-6800, Li-Cor, Lincoln, NE,USA)
- Plant water relationship measurements by pressure chamber (Model 1000, PMS Instrument, Corvallis, OR)
- Basic use of LinTab software for dendroecology and tree ring analysis

PEER-REVIEWED PUBLICATIONS

1. **Joshi, R.K.** and Garkoti, S.C., 2021. Influence of Nepalese alder on soil physico-chemical properties and fine root dynamics in white oak forests in the central Himalaya, India. *Catena*, *200*, p.105140. https://doi.org/10.1016/j.catena.2020.105140
2. Garg, S., **Joshi, R. K.,** & Garkoti, S. C. 2021. Effect of tree canopy on herbaceous vegetation and soil characteristics in semi-arid forests of the Aravalli hills. *Arid Land Research and Management*, 1-19. https://doi.org/10.1080/15324982.2021.1953634
3. Kumar, M., Kumar, S., Verma, A. K., **Joshi, R. K**., & Garkoti, S. C. 2021. Invasion of Lantana camara and Ageratina adenophora alters the soil physico-chemical characteristics and microbial biomass of chir pine forests in the central Himalaya, India. *Catena*, *207*, 105624. https://doi.org/10.1016/j.catena.2021.105624
4. Dhyani, S., Singh, A., Gujre, N. and Joshi, **R.K., 2021**. Quantifying tree carbon stock in historically conserved Seminary Hills urban forest of Nagpur, India. *Acta Ecologica Sinica*, 41(3), pp.193-203. https://doi.org/10.1016/j.chnaes.2021.01.006
5. **Joshi, R. K.,** & Garkoti, S. C. 2021. Dynamics of ecosystem carbon stocks in a chronosequence of nitrogen-fixing Nepalese alder (Alnus nepalensis D. Don.) forest stands in the central Himalayas. *Land Degradation & Development*, *32*(14), 4067-4086. **https://doi.org/10.1002/ldr.3901**
6. **Joshi, R.K.,** 2020. Tree species diversity and biomass carbon assessment in undisturbed and disturbed tropical forests of Dibru-Saikhowa biosphere reserve in Assam North-East India. *Vegetos*, 33(3), pp.516-537. https://doi.org/10.1007/s42535-020-00135-4
7. Lahoti, S., Lahoti, A., **Joshi, R.K.** and Saito, O., 2020. Vegetation structure, species composition, and carbon sink potential of urban green spaces in Nagpur City, India. *Land*, 9(4), p.107. **https://doi.org/10.3390/land9040107**

8. **Joshi, R.K.** and Garkoti, S.C., 2020. Litter dynamics, leaf area index and forest floor respiration as indicators for understanding the role of Nepalese alder in white oak forests in central Himalaya, India. *Ecological Indicators*, 111, p.106065. https://doi.org/10.1016/j.ecolind.2020.106065
9. **Joshi, R. K.,** & Dhyani, S. 2019. Biomass, carbon density and diversity of tree species in tropical dry deciduous forests in Central India. *Acta Ecologica Sinica*, *39*(4), 289-299. https://doi.org/10.1016/j.chnaes.2018.09.009

LIST OF PAPER COMMUNICATED AND UNDER REVIEW

1. **Joshi, R.K.** and Garkoti, S.C., Influence of Nepalese alder on ecosystem carbon stock and sequestration rates in white oak forests in the central Himalaya, India
2. **Joshi, R.K.,** Garkoti, S.C., Mishra, A., Gupta, R., Ecophysiology traits of co-occurring evergreen and deciduous woody species of contrasting leaf phenology in a central Himalayan oak forest
3. **Joshi, R.K.** and Garkoti., Dynamics of ecosystem nitrogen and phosphorus stocks and stoichiometry in a chronosequence of nitrogen-fixing Nepalese alder (Alnus nepalensis D. Don.) forest stands in the central Himalayas
4. Kalra A., **Joshi, R.K**. and Garkoti, S.C. Eco-physiological traits contribute to the superior performance of invasive alien species *Lantana camara* L over the native shrub species *Adhatoda vesica* Nees in semi-arid region in Delhi India
5. Gupta, R ., Garkoti, S.C., Borgaonkar, H.P., Pandey, U., Mishra, A., **Joshi, R.K.,** An updated review on the dendrochronological studies in western 2 Himalaya, India: An ecological approach.

LANGUAGES

Hindi (native); English (professional)

REFERENCES

Satish Chandra Garkoti, Professor School of Environmental Sciences
Jawaharlal Nehru University New Delhi-10067 India
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Shalini Dhyani, Sr. Scientist
Water Technology And Management Division
CSIR- National Environmental Engineering Research Institute
Nehru Marg, Nagpur 440 020 India
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Prasanna K. Samal, Scientist In-charge North-East Regional Centre Chandranagar Itanagar - 791113, Arunachal Pradesh, India
prasannasamal@rediffmail.com