

## Curriculum Vitae of Shovik Deb

Name: **SHOVIK DEB**

### Personal details

Communicating Address: 109, Temple Street bye Lane, Patakura, Cooch Behar 736 101, West Bengal, India

Date of birth: 6<sup>th</sup> February, 1984

Marital status: Married

Religion: Hindu

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### Research specialization

**Soil Ecology, Remote Sensing of Natural Resources, Geostatistics, Ecosystem Modelling**

### Academic Qualification (starting from the highest one)

Degree	Board/ University	Subject (s)/ Thesis title	Year of passing	Division
PhD	Indian Institute of Technology Kharagpur and Helmholtz UFZ (Bi-nationally supervised degree)	<i>Dynamics of Organic Carbon in Soils under Coastal Agro-ecosystem</i>	2013	NA
M.Sc (Ag) (Masters)	Bidhan Chandra Krishi Viswavidyalaya	Agril Chem & Soil Science/ <i>Mineralogical Investigation of Soils of Jumar Subwatershed (Jharkhand)</i>	2008	1 <sup>st</sup>
B.Sc (Ag) Hons. (Graduation)	Uttar Banga Krishi Viswavidyalaya	All Agriculture Subjects with specialization in Soil Science	2006	1 <sup>st</sup>
Higher Secondary	West Bengal Council of Higher Secondary Education	Physics, Chemistry, Mathematics, Biology, Bengali, English	2002	1 <sup>st</sup>
Madhyamik (Secondary)	West Bengal Board of Secondary Education	Physical Science, Life Science, Mathematics, History, Geography, Biology (Additional), Bengali, English	2000	1 <sup>st</sup>

### Short certificate/ capacity building courses attended

- Remote Sensing & GIS Applications in Carbon Forestry by Indian Institute of Remote Sensing
- UAV Remote Sensing and Applications by Indian Institute of Remote Sensing
- Workshop and training on precision agricultural technologies (sensor, UAV) by Georg-August University of Gottingen and DAAD

### Employment (starting from the present one)

Post	University/ Institute	Duration
Assistant Professor	Uttar Banga Krishi Viswavidyalaya	26-06-2014 to till date
Research Associate	International Crops Research Institute for Semi-Arid Tropics	20-05-2013 to 30-05-2014

**Teaching responsibilities** (as Assistant Professor at Uttar Banga Krishi Viswavidyalaya):

**Undergraduate courses:** Remote Sensing, GPS and GIS (SSC 352), Remote Sensing and GIS for Natural Resource Management and Land Use Planning (SSC 402), Soil Science II: Soil Physics, Soil Genesis and Classification (SSC 351); Environmental Science and Disaster Management (HOR 151), Organic Farming (AGR 405)

**Postgraduate and PhD courses:** Soil Physics (SOILS 501); Soil Erosion and Conservation (SOILS 505); Soil, Water and Air Pollution (SOILS 510); Remote Sensing and GIS Techniques for Soil and Crop Studies (SOILS 511); Analytical Techniques (SOILS 512); Land Use Planning and Watershed Management (SOILS 606); Remote Sensing and GIS (FOR 512); Soil Genesis and Micropedology (SOILS 604)

**Grantsmanship** (externally funded projects in continuation)

- Name of project: Below-ground Deep Carbon Stabilization in Soils under Long-term Rice Ecology  
Funding agency: Science and Engineering Research Board, Department of Science and Technology  
Duration: November 2014 to till date  
Host institute: Uttar Banga Krishi Viswavidyalaya  
Role: Principle Investigator  
Grant amount: INR 13,64,000
- Name of project: Use of Hyperspectral Diffuse Reflectance Spectroscopy Sensors for Rapid Assessment of Soil Quality  
Funding agency: Indian Council of Agricultural Research  
Duration: January 2016 to till date  
Host institute: Uttar Banga Krishi Viswavidyalaya  
Role: January 2016 to August 2016: Co-Principle Investigator  
September 2016 to till date: Principle Investigator  
Grant amount: INR 13,37,050
- Name of project: Retrieval of Biophysical Parameters in Buxa Tiger Reserve using GISAT  
Funding agency: Space Application Centre, Indian Space Research Organization  
Duration: May 2017 to March 2019  
Host institute: Uttar Banga Krishi Viswavidyalaya  
Role: Principle Investigator  
Grant amount: INR 14,95,000
- Name of project: Assessment of Ecological Sustainability of Urban and Peri-Urban Agriculture in Kolkata Metropolitan Area  
Funding agency: University Grant Commission  
Duration: March to till date  
Host institute: Jadavpur University  
Role: Expert/ Resource Person  
Grant amount: INR 10,00,000
- Name of project: Assessment of Ecosystem Services in Home Garden Agroforestry Systems in Sikkim and Sub-Himalayan Region of West Bengal  
Funding agency: Department of Science and Technology  
Duration: December to till date  
Host institute: Uttar Banga Krishi Viswavidyalaya  
Role: Expert/ Resource Person  
Grant amount: INR 36,56,825

### **Awards and fellowships** (starting from the recent one)

- Attended **DAAD** (German Academic Exchange Service) alumni seminar cum training in **Georg-August Universität, Göttingen** and Agritechnica in **Hannover** (2017)
- **DST** (Department of Science and Technology) **International Travel Grant** for attending conference in China (2013)
- **DAAD** (German Academic Exchange Service) short-term fellowship in **Helmholtz UFZ, Halle (Saale)** (2010-11)
- **ICAR** (Indian Council of Agricultural Research) **NET** (National Eligibility Test) in Soil Science (2009 and 2010)
- **ISSS** (Indian Society of Soil Science) **Zonal Award** for best M.Sc (Ag) thesis in Soil Science (2009)
- **CSIR** (Council of Scientific and Industrial Research) **JRF** (Junior Research Fellowship) + **SRF** (Senior Research Fellowship) and **NET** (National Eligibility Test) in Earth Science (2008)
- **ICAR** (Indian Council of Agricultural Research) **JRF**(Junior Research Fellowship) in Physical Science (2006)
- **JBNSTS** (Jagadis Bose National Science Talent Search) scholarship (2001)

### **Publications**

#### **Selected journal papers**

1. **Deb, S.\***, Debnath, M.K., Chakraborty, S., Weindorf, D.C., Kumar, D., Deb, D., Choudhury, A. (2018) Impact of anthropogenic and agricultural intensification on forest land use and land cover change and modelling for future possibilities: A case study from of Himalayan Terai. *Anthropocene* (Accepted, in press). [Elsevier]
2. Deb, D., Singh, J. P., **Deb, S.\***, Datta, D., Ghosh, A., Chaurasia, R.S. (2017) An alternative approach for estimating above ground biomass using Resourcesat-2 satellite data and artificial neural network in Bundelkhand region of India. *Environmental Monitoring and Assessment*, 189: 576. [Springer]
3. Chakraborty, S., Man, T., Paulette, L., **Deb, S.**, Li, B., Weindorf, D.C.\*, Frazier, M. (2017) Rapid assessment of smelter/mining soil contamination via portable X-ray fluorescence spectrometry and indicator kriging. *Geoderma* 306: 108-119. [Elsevier]
4. Datta, D.\*, **Deb, S.** (2017) Forest structure and soil properties of mangrove ecosystems under different management scenarios: Experiences from the intensely humanized landscape of Indian Sunderbans. *Ocean and Coastal Management* 140: 22-33. [Elsevier]
5. Chakraborty, S.\*, Li, B., **Deb, S.**, Paul, S., Weindorf, D.C., Das, B.S. (2017) Predicting soil arsenic pools by visible near infrared diffuse reflectance spectroscopy. *Geoderma*, 296: 30-37. [Elsevier]
6. Chakraborty, S., Weindorf, D.C.\*, **Deb, S.**, Li, B., Paul, S., Choudhury, A., Ray, D.P. (2017) Rapid assessment of regional soil arsenic pollution risk via diffuse reflectance spectroscopy. *Geoderma*, 289: 72-81. [Elsevier]
7. Duda, B.M., Weindorf, D.C.\*, Chakraborty, S., Li, B., Man, T., Paulette, L., **Deb, S.** (2017) Soil characterization across catenas via advanced proximal sensors. *Geoderma*, 298: 78-91. [Elsevier]
8. Pearson, D., Chakraborty, S., Duda, B., Li, B., Weindorf, D.C.\*, **Deb, S.**, Brevik, E., Ray, D.P. (2017) Water analysis via portable x-ray fluorescence spectrometry. *Journal of Hydrology*, 544: 172-179. [Elsevier]
9. **Deb, S.**, Chakraborty, S.\*, Weindorf, D.C., Murmu, A., Banik, P., Debnath, M.K., Choudhury, A. (2016) Dynamics of organic carbon in deep soils under rice and non-rice cropping systems. *Geoderma Regional*, 7: 388-394. [Elsevier]

10. **Deb, S.\***, Mandal, B., Bhadoria, P.B.S., Schulz, E., Ghosh, S., Debnath, M.K. (2016) Microbial biomass and activity in relation to accessibility of organic carbon in saline soils of coastal agro-Ecosystem. *Proceedings of the National Academy of Sciences India Section B: Biological Sciences*, Online First. [Springer]
11. **Deb, S.\***, Bhadoria, P.B.S., Mandal, B., Rakshit, A, Singh, H. B. (2015) Soil organic carbon towards better soil health, productivity and climate change mitigation. *Climate Change and Environmental Sustainability*, 3: 26-34.
12. **Deb, S.\***, Ahmed, A., Datta, D. (2014) An alternative approach for identifying eco-sensitive zones using remote sensing and GIS technologies. *Environmental Monitoring and Assessment*, 186: 2641-2651. [Springer]
13. Datta, D.\*, **Deb, S.** (2012) Analysis of coastal land use/ land cover changes in the Indian Sunderbans using remotely sensed data. *Geo-spatial Information Science*, 14: 241-250. [Taylor & Francis]
14. Datta, D., Chattopadhyay, R. N., **Deb, S.\*** (2011) Prospective livelihood opportunities from the mangroves of the Sundarbans, India. *Research Journal of Environmental Sciences*, 5: 536-543.

#### **Book chapter**

1. **Deb, S.\***, Dutta, P. (2017) Wastewater in agriculture: possibilities and limitations. In (eds. Rakshit, A., Abhilash, P.C., Singh, H.B., Ghosh, S.) *Adaptive Soil Management: From Theory to Practices*. Springer Nature, Singapore, pp. 215-225.

#### **Technical report**

1. Hazra, G., Saha, S., **Deb, S.**, Pal, B., Pati, S., Batabyal, K., Murmu, S., Saha, B., Mandal, B., Shukla, A.K. (2017) Delineation and mapping of micronutrients status in different districts of West Bengal and remediation of their deficiencies (*in Bengali*). Bidhan Chandra Krishi Viswavidyalaya and All India Coordinated Research Project on Micro and Secondary Nutrients and Pollutant Elements in Soils and Plants.

#### **Abstracts in international conference proceedings**

1. Datta, D., **Deb, S.** (2015) Attaining community needs and ecological sustainability in Indian Sunderbans: lessons from mangrove management alternatives. 11<sup>th</sup> International Conference on Environmental, Cultural, Economic and Social Sustainability, Copenhagen, Denmark.
2. **Deb, S.**, Bhadoria, P.B.S., Mandal, B., Schulz, E. (2013) Impact of cropping system onto microbial and organic carbon dynamics in saline soils of coastal agro-ecosystem. 4<sup>th</sup> International Symposium on Soil Organic Matter, Nanjing, China.

**Reviewer:** Soil Science Society of America Journal, Environmental Monitoring and Assessment (Springer), Singapore Journal of Tropical Geography (Wiley), Archives of Agronomy and Soil Science (Taylor & Francis), Soil Research (CSIRO), Algal Research (Elsevier).

**Life Member:** Indian Society of Remote Sensing

**Supervisor:** MSc student (2: on-going)

#### **Additional duties**

- Member of District Level Expert Appraisal Committee, Alipurduar District, West Bengal, India
- In-charge, Remote Sensing and GIS Laboratory, Faculty of Agriculture, Uttar Banga Krishi Viswavidyalaya
- Representative of Uttar Banga Krishi Viswavidyalaya for the committee to prepare Water Management Plan for Eastern Zone of India