

1. Name: DR. NISHANT KUMAR SRIVASTAVA

2. Date of Birth: 31-01-1964

3. Current Position and Address: Principal Scientist  
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4. Educational qualifications: (Graduation and above)

Sl. No.	Degree/ Certificate	Year Passing	of University/Institute	Subjects
1.	B.Sc.	1983	Gorakhpur University	Botany, Zoology, Chemistry
2.	M.Sc.	1985	Gorakhpur University	Botany(specialization in Plant Ecology)
3.	Ph.D	1990	Dept. of Botany, Banaras Hindu University	Botany (Ecology/Environmental Sciences)

5. Work experience

Designation	Institution/company	From	To	Nature of work
Research Associate (CSIR)	Dept. of Botany, Banaras Hindu University	Jan. 1991	Dec. 1995	R&D in water pollution ecology, riparian wetlands, eco-physiology of vegetations
Research Scientist (DST)	Institute of Technology, Banaras Hindu University	Apr. 1996	Sept. 1997	R&D in conservation of riparian ecosystem, plant eco-physiology
Junior Scientist	Central Fuel Research Institute, Dhanbad	15.10.1997	14.10.2001	R&D in solid waste management, Fly ash utilization in agro-forestry sector, GHG mitigation, Ecological reclamation of waste/
Senior Scientist	Central Institute of Mining & Fuel Research,	15.10.2001	14.10.2010	

Principal Scientist	Digwadih Campus, Dhanbad	Central Institute of Mining & Fuel Research, Digwadih Campus, Dhanbad	15.10.2010 onwards	degraded lands, ash ponds, mine over burdens, low lands, soil contaminants, occupational health hazards, Atmospheric Biopollution, plant physiology, biomass ash/biochar based slow release K-fertilizer
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#### 6. Area of specialization:

Solid Waste Management (Utilization of fly ash/pond ash in agro-forestry), GHG Mitigation, Bio-reclamation of wasteland/OB dump/Ash pond/Mine spoil/Low lying area, Riparian ecology, Plant physiology, Bio-char, Trace metal distribution in fly ash

#### 7. Honors/Awards received:

- Qualified Lead Auditor (2008) ISO:14001:2004 by TUV (Germany)
- A research paper entitled “Phosphorus adsorption, fixation and fraction in fly ash and ash amended soil” by Mahato, M.K., Masto, R.E., Selvi, V.A., Ram, L.C., Srivastava, N.K., Tripathi, R.C., Jha, S.K. and Sinha, A.K. (2005). Presented in Fly Ash India 2005, Int. Congress, New Delhi during 4-7 December 2005 was adjudged to be the best paper by the peer reviewers of the Conference.

#### 8. Fellowships/Scholarships:

- Int. Society for Ecological Communication

#### 9. No. of Research Publications:

- Papers in journals: 40
- In conference proceedings: 100
- Invited/key-note addresses: 10
- List of best 05 publications:

1. L.C. Ram, N.K. Srivastava, R.C. Tripathi, S.K. Jha, R.R.P. Roy, A.K. Sinha, G. Singh and V. Manoharan (2006). Management of mine spoil for crop productivity with lignite fly ash and biological amendments. *J. Environmental Management* 79:173-187.
2. L.C. Ram, N.K. Srivastava, S.K. Jha, A.K. Sinha, R.C. Tripathi, R.E. Mastro (2007). Management of lignite fly ash through its bulk use via biological amendments for improving the fertility and crop productivity of soil. *Environmental Management* 40: 438-452.
3. N.K. Srivastava, L.C. Ram, R.E. Mastro (2010). Role of selected riparian herbs in reducing soil erosion and nutrient loss under simulated rainfall. *Environmental Earth Sciences* 61: 405-417.
4. N.K. Srivastava, L.C. Ram, R.E. Mastro. (2014). Reclamation of overburden and lowland in coal mining area with fly ash: A sustainable ecological approach. *Ecological Engineering* 71: 479-489.
5. L.C. Ram, R.E. Mastro, N.K. Srivastava, J. George, V.A. Selvi, T.B. Das, S.K. Pal, Sudip Maity, D. Mohanty (2015). Potentially toxic elements in lignite and its combustion residues from a power plant. *Environmental Monitoring and Assessment* 187 (1), 1-14.

10. Number of Books authored/edited:

1. Co-edited Proceedings of National Seminar on Utilisation of Fly ash in agriculture and for Value-added Products, 15-16 Nov, 1999, Editors: L. C. Ram, R. C. Tripathi, S. K. Jha, N. K. Srivastava, G. Singh (ISBN No. 81-7525-184-O)
  2. Co-edited the Proceedings National Seminar in Hindi on “Koyla Upyog: Drishti-2025” Rashtriya Sangoshthi Koyla Adharit Udyog-Samasyaen evam Samadhan, 4-5 May 2012”.
  3. Hindi Reference Book Published (as co-editor)
- हिन्दी पुस्तक “कोयला उपयोग: दृष्टि-2025 (2014). संपादकगण: एल सी राम, एन के श्रीवास्तव, ए के सिन्हा, एस के झा, के के शर्मा, अमलेंदु सिन्हा, सीएसआईआर-सीआईएमएफआर (डिगवाडीह परिसर), धनबाद द्वारा प्रकाशित तथा फ्लोरेस ऑफसेट प्रोसेसेस प्रा. लि., कोलकाता से मुद्रित (ISBN: 978-93-5174-620-1), पेज 284.

11. (a) No. of Patents granted/applied for: 01

A process for the manufacture of fly ash –based soil conditioner cum fertilizer, G. Singh, L. C. Ram, S. K. Jha, R. C. Tripathi, **N. K. Srivastava** (Patent number: 230555; Application number 211/DEL/2002; Journal date 2009-03-13).

(b) Technologies developed, Licensed and/or commercialized:

Developed Fly Ash Soil Amendment Technology (FASAT) for Agro-forestry applications in varying soil types and different agro-climatic conditions. commercialized in different farmers' fields for soil amendment, increase in crop yields via improving soil fertility, management of waste/degraded lands, mine over burdens, low lying area, etc. in an eco-friendly manner.

#### 12. Foreign visits:

Deputation Abroad for participation in 4th International Conference on "Sustainable Energy & Environmental Protection (SEEP-2010) 'ENVIRONMENTAL PROTECTION IN THE NEW ERA, DIMeG, Politecnico di Bari, BARI – ITALY during 29th June to 2nd July 2010.

#### 13. Details of Professional memberships:

- i. Society for International Tropical Ecology, Banaras Hindu University
- ii. Purvanchal Environmental Association, Varanasi
- iii. Academy of Environmental Biology, Lucknow

#### 14 . Major contributions: (Max. 150 words)

- Commercialized the developed Fly Ash Soil Amendment Technology in different farmers' fields in the vicinity of different TPPs in the country for soil amendment, increase in crop yields via improving soil fertility, management of waste/degraded lands in an eco-friendly manner.
- The determination of stability of bio-char carbon in soils through long-term incubation at different temperatures. It is a novel approach to set up a significant, long-term, stable sink for atmospheric CO<sub>2</sub> in terrestrial environment.
- Impact of contaminated soil on human health in the vicinity of different coal-based industries; human exposure risks through soil ingestion and inhalation, consumption of produce grown on contaminated soils, soil dermal uptake, etc and through assessment of health status of inhabitants of various coalfields in India through epidemiological survey.
- Studies on process development for preparation of potassic-fertilizer from biomass ash under the 12 FYP CSIR Network Project (CSC 0105) through core process development and its up-scaling to pilot plant, which is to be further demonstrated at biomass-based power plant sites.
- XII FYP Network Project under National Clean Air Mission (NCAM) for assessment of polycyclic aromatic hydrocarbon & Hg emission from coal-based power plants of the country for the identification of techniques for emission reduction/ capture.

- Studies on the effect of biochar to combat the leaching of potentially toxic elements from Indian fly ashes will give the broad spectrum about the presence and behavior of potentially toxic element in Indian fly ashes.

15. Technologies and Products/ Services

- (i) Developed: FASAT
- (ii) Licensed:
- (iii) Commercialized: FASAT

16. Designs and Prototype Developed: N.A

17. Honours and awards won for technological contributions or sociological impact of R&D:  
N.A



Signature