

**Proforma for information to be provided by the Teaching/ Academic/  
Research Staff**

1. Name : **Dr. Bali Ram**  
Date of Birth : **01-01-1957**
2. Designation : **Professor of Physical Chemistry**
3. Academic Qualifications:



Sr.	Degree	Institution	Year
1	B.Sc.	DDU Gorakhpur University	1977
2	M.Sc.	DDU Gorakhpur University	1979
3	Ph.D.	DDU Gorakhpur University	1986

**4. Area of Specialization:**

**1. Physical Chemistry**

Non-equilibrium Thermodynamic Studies on Transport through membranes, Membrane-separation processes, Electrokinetic effects.

**2. Analytical Chemistry**

Chromatographic and Electroanalytical separations, Pesticide residue analysis, Heavy metal dynamics in natural systems.

5. Contact Information: **baliram@bhu.ac.in**  
**Mob. No. +91-9412120660, 7525839777**
6. Projects Undertaken as PI/ Co PI: **PI-2/Co PI-1**
7. Awards/ Recognitions if any: **National Merit Scholarship,  
CSIR- Direct Fellowship**
8. List of 10 major Publications:
- M.L. Srivastava and **Bali Ram**, Electro-kinetic studies on testosterone/aqueous electrolyte interface. *J. Membrane Science (USA)*. 19 (1984): 137-153.
  - M.L. Srivastava and **Bali Ram**, Electro-kinetic studies on testosterone/ aqueous electrolyte interface. *Carbohydrate Research (USA)*. 132 (1984): 202-220.
  - M.L. Srivastava and **Bali Ram**, Electro-kinetic studies on testosterone/ aqueous electrolyte interface. *J. Non-equilibrium Thermodynamics (Netherlands)*. 10 (1985): 57-72.

- M.L. Srivastava and **Bali Ram**, Electrophoresis of progesterone particles dispersed in carbohydrate and non-electrolyte solution. *J. Bull. Chem. Soc. (Japan)* 61 (1988): 2175-2179.
- M.L. Srivastava and **Bali Ram**, Non-equilibrium Thermodynamic studies on membrane phenomena: Transport of electrolytic solutions through progesterone plug membrane, *J. Bull. Chem. Soc. (Japan)* 62 (1989):
- M.L. Srivastava and **Bali Ram**, Non-equilibrium Thermodynamic studies on membrane phenomena: Transport of Urea and D-glucose solutions across progesterone plug membrane. *J. Bull. Chem. Soc.* 66 (1993): 1-5.
- Geeta Kandpal, **Bali Ram**, P.C. Srivastava and S.K. Singh, Effect of metal spiking on different chemical pools and chemically extractable fractions of heavy metals in sewage sludge. *J. Hazardous Materials* 106(B) (2004): 133-137.
- Geeta Kandpal, **Bali Ram** and P.C. Srivastava. Transformation of cadmium in soil treated with cadmium enriched sewage and cadmium chloride under field capacity and flooding moisture regimes. *Chemical speciation and bioavailability*, Published by Science and Technology Letters, 16(3) (2004): 111-118.
- Geeta Kandpal, P.C. Srivastava and **Bali Ram**. Kinetics of Desorption of Heavy metals from polluted soils: Influence of Soil Type and Metal Source. *Water, Air and Soil Pollution*. **161** (1-4) (2005) 353-363.
- M.L. Srivastava, S.N. Lal and **Bali Ram**. Electro-osmotic transport of methanol, ethanol, n-propanol and n-butanol across a thorium oxide pug membrane. *Indian Journal of Chemistry* 124(1982): 788-791.
- Shishir Tandon, N.K. Sand, A.K. Pant and **Bali Ram**, Evaluation of Phenolics from Some Plants of Family Asteraceae. *Pestology*. Vol. XXV No. 7 July (2001), 30-31.
- Anjali Sharma, Anjana Srivastava, **Bali Ram**, P.C. Srivastava, Govindra Singh. Effect of organic manure application on adsorption-desorption of isoproturon herbicide in different soils. *Pesticide Research Journal*, **17**(1): 77-81 (2005).

## 9. Additional Information/ Achievements:

Born Sant Kabir Nagar erstwhile Basti district, Utter Pradesh. Ph.D. (under the supervision of Prof. M.L. Srivastava) Gorakhpur University, 1986. Faculty: G. B. Pant University of Agriculture and Technology Pantnagar, Uttarakhand as Assistant Professor (24-3-87 to 22-10-98), Associate Professor (23-10-98 to 23-3-2004), Professor (24-3-2004 to 27-11-2007), Banaras Hindu University Varanasi: Professor, 28-11-2007 to date.

**Life member of CRSI** (Chemical Research Society of India).

**Visiting guest faculty:** Centre for Food Technology Central University Allahabad, Govt. P.G. College Ranikhet, MRBR Post graduate college Haldwani, Kumaun Engineering College Dwarhat, Uttarakhand to deliver lectures in the area of Industrial chemistry, Instrumental analytical techniques, Electrochemistry and Chemical dynamics.

### Research Interest:

Non-equilibrium thermodynamic studies on transport through synthetic membranes, Membrane separation processes, Electro-kinetic effects, Chromatographic separation using: column, TLC, HPLC, GPC, IEC and Electrophoresis; Micronutrient analysis using: AAS and Flame Photometer, Environmental analysis, Studies on Pesticides and Heavy metals dynamics in soil, water and plant systems, Nuclear Techniques in Agricultural Sciences, Pesticides and Fungicides formulations and their roles in crop protection, Pesticides- residue analysis in vegetables and food grains.

## 10. Full List of Publications:

### International Journals

- M.L. Srivastava and **Bali Ram**, Electro-kinetic studies on testosterone/aqueous electrolyte interface. *J. Membrane Science (USA)*. 19 (1984): 137-153.
- M.L. Srivastava and **Bali Ram**, Electro-kinetic studies on testosterone/ aqueous electrolyte interface. *Carbohydrate Research (USA)*. 132 (1984): 202-220.
- M.L. Srivastava and **Bali Ram**, Electro-kinetic studies on testosterone/ aqueous electrolyte interface. *J. Non-equilibrium Thermodynamics (Netherlands)*. 10 (1985): 57-72.
- M.L. Srivastava and **Bali Ram**, Electrophoresis of progesterone particles dispersed in carbohydrate and non-electrolyte solution. *J. Bull. Chem. Soc. (Japan)* 61 (1988): 2175-2179.
- M.L. Srivastava and **Bali Ram**, Non-equilibrium Thermodynamic studies on membrane phenomena: Transport of electrolytic solutions through progesterone plug membrane, *J. Bull. Chem. Soc. (Japan)* 62 (1989):.

- M.L. Srivastava and **Bali Ram**, Non-equilibrium Thermodynamic studies on membrane phenomena: Transport of Urea and D-glucose solutions across progesterone plug membrane. *J. Bull. Chem. Soc.* 66 (1993): 1-5.
- Geeta Kandpal, **Bali Ram**, P.C. Srivastava and S.K. Singh, Effect of metal spiking on different chemical pools and chemically extractable fractions of heavy metals in sewage sludge. *J. Hazardous Materials* 106(B) (2004): 133-137.
- Geeta Kandpal, **Bali Ram** and P.C. Srivastava. Transformation of cadmium in soil treated with cadmium enriched sewage and cadmium chloride under field capacity and flooding moisture regimes. *Chemical speciation and bioavailability*, Published by Science and Technology Letters, 16(3) (2004): 111-118.
- Geeta Kandpal, P.C. Srivastava and **Bali Ram**. Kinetics of Desorption of Heavy metals from polluted soils: Influence of Soil Type and Metal Source. *Water, Air and Soil Pollution*. **161** (1-4) (2005) 353-363.

### *National Journals*

- M.L. Srivastava, S.N. Lal and **Bali Ram**. Electro-osmotic transport of methanol, ethanol, n-propanol and n-butanol across a thorium oxide pug membrane. *Indian Journal of Chemistry* 124(1982): 788-791.
- U. Kumar, **B. Ram**, A. K. Pant, K.C. Gupta and J.J. Brophy “Volatile Constituents of Leaf and Peel Oils of Citrus Lemon Burm var. Pant Lemon-1” *J. Essential Oils Research* 4(6) (1992).
- Shishir Tandon, **Bali Ram** and A.K. Pant. Insecticidal Properties os Some Indigenous Plants Against *Callosobruchus chinensis* L. *Indian J. Plant Prot.* 29 (1& 2) (2001) 157-158
- Shishir Tandon, N.K. Sand, A.K. Pant and **Bali Ram**, Evaluation of Phenolics from Some Plants of Family Asteraceae. *Pestology*. Vol. XXV No. 7 July (2001), 30-31.
- S. Pandey, **Bali Ram** and P.C. Srivastava, Effect of different phosphatic fertilizers and P levels on the availability of P and micronutrient cations in acidic and calcareous soils. *Eco. Env. and Con.*8(1) (2002); 63-69.
- S. Pandey, **Bali Ram**, P. Srivastava and P.C. Srivastava, Effect of different phosphatic fertilizers and P levels on the adsorption desertion of zinc in an acidic soil. *Chemical and Environmental Research*. 11 (1&2) (2002) 145-152.
- Tandon Shishir, Pant, A.K. and **Bali Ram**, Effect of some plants extracts as grain protectant against pulse beetle *Callosobruchus chinensis* L. *Seed Research* **32**(2) (2004).
- Geeta Kandpal, **Bali Ram** and P.C. Srivastava. Dynamics of Transformation of Pb Fractions in Polluted Soils. *Chem. Environ. Research*. 13 (1&2) (2004) 63-71.

- Anjali Sharma, Anjana Srivastava, **Bali Ram**, P.C. Srivastava, Govindra Singh. Effect of organic manure application on adsorption-desorption of isoproturon herbicide in different soils. *Pesticide Research Journal*, **17**(1): 77-81 (2005).
- S.K. Rai, Anjana Srivastava, Anjali Sharma, **Bali Ram**, P.C. Srivastava and Govindra Singh. Adsorption-desorption of sulfosulfuorn on four Indian Hill soils. *Indian J. Weed Science*, **37**(1&2): 81-85. (2005)
- Amita Bist, Anjali Sharma, Anjana Srivastava, **Bali Ram**, P.C. Srivastva and Govindra Singh. Effect of temperature on Adsorption-desorption of Isoproturon on clay soil. *Indian J. Weed Science*. **37**(3&4): 247-250 (2005).
- C.S. Kavidayal, **Bali Ram**, P.C. Srivastava and A.P. Singh. “Interaction effect of phosphorus sources and zinc on their chemical fractions in a mollisol” *J. Chemical and Environmental Research*. **15**(1&2): 61-66 (2006).
- Sonal Dixit, **Bali Ram**, N.K. Sand, Sudha Kanaujia. Dissipation studies on three pheromone components of *Helicoverpa armigera* (Hubner) from Rubber septa. *Journal of Eco-friendly Agriculture*.

#### **ABSTRACTS PUBLISHED IN THE PROCEEDINGS OF SYMPOSIUM/ SEMINAR**

- Shishir Tandon, **Bali Ram**, N.K. Sand and A.K. Pant. Insecticidal activity and phenolic acid composition of some plants of family Asteraceae, *National Seminar on Entomology in 21<sup>st</sup> Century*, April 30- May 2, 1998 at Rajasthan College of Agriculture, Udaipur.
- S.K. Rai, **Bali Ram** and P.C. Srivastava, Adsorption of Zn (II) and Cu (II) ions by Mollisol, *National Symposium on Chemical Sciences: Advancing Frontiers*, June 3 and 4, 2001 at CDRI Lucknow.
- Geeta Kanpal, **Bali Ram**, P.C. Srivastava, S.K., Singh and U.P. Shahi, Chemical Transformation of Zn in soils polluted by inorganic salts and city sludge, Twelfth National Symposium on Environmental, (NSE-12), “Environmental protection strategies for sustainable environment” June 5-7, 2003, Organized by HNB Garhwal University and BARC-Mumbai.
- M.L. Srivastava and **Bali Ram**. Non-equilibrium thermodynamics studies on membrane phenomena, streaming potential and streaming current. In: National seminar on Threatening crisis for natural resources and their judicious management: A need for sustainable development, Pantnagar, 23-25 December, 2006. Organized by DAAD and G.B.P.U.A. &T., Pantnagar.

## Papers/Posters Presented in National Seminars/Symposia

1. National Seminar on **Chemistry Biology Interface: Recent Trends** October 28-30, 2010 organized by Department of Chemistry, Govt. P. G. College Ranikhet Uttarakhand and U.G.C. New Delhi as a paper entitled “**Non equilibrium thermodynamic studies on membrane phenomena**”
2. National Symposium on **Emerging trends in chemical sciences (ETCS-2011) under UGC-CAS-I** February 19-20, 2011 organized by Deptt.of Chemistry, Faculty of Science, Banaras Hindu University, Varanasi as a poster entitled “**Non-equilibrium thermodynamic studies on transport through plug membrane**”
3. National Seminar on **Pesticides food safety and environment** November 08, 2011 organized by Department of Chemistry and Microbiology, G. B. Pant University Agriculture and Technology, Pantnagar.(U.S. Nagar India) as a poster entitled “**Residue studies of endosulphan in brinjal and cabendazim in tomato**”
4. Surendra Kumar, **Bali Ram**, R.S. Tyagi and R. Achaya, Multi elemental study of fly ash collected from century paper mill Lalkuan (Nainital) by N.A.A. , National conference on Recent Advances in Waste Management, (RAWM -2009) Organized by Centre of Advanced Study, Department of Chemical Engineering and Technology IT BHU, Varanasi.

## BOOK CHAPTER

- Geeta Kandpal, P.C. Srivastava, **Bali Ram** and Lalit Tiwari 2006. Chemical fractions and bioavailability of heavy metals in polluted soils. In: New Research on Hazardous Materials by NOVA Science Publisher. Inc. NY.
- **Bali Ram** 2007. Basic Concepts of Chemistry Applied to Soil Studies. In: Management of Soil Quality for Sustainable Agriculture. Satish Serial Publishing House. Delhi

## **ABSTRACTS PUBLISHED IN THE PROCEEDINGS OF SYMPOSIUM/ SEMINAR**

- Shishir Tandon, **Bali Ram**, N.K. Sand and A.K. Pant. Insecticidal activity and phenolic acid composition of some plants of family Asteraceae, *National Seminar on Entomology* in 21<sup>st</sup> Century, April 30- May 2, 1998 at Rajasthan College of Agriculture, Udaipur.
- S.K. Rai, **Bali Ram** and P.C. Srivastava, Adsorption of Zn (II) and Cu (II) ions by Mollisol, *National Symposium on Chemical Sciences: Advancing Frontiers*, June 3 and 4, 2001 at CDRI Lucknow.
- Geeta Kanpal, **Bali Ram**, P.C. Srivastava, S.K., Singh and U.P. Shahi, Chemical Transformation of Zn in soils polluted by inorganic salts and city sludge, Twelfth National Symposium on Environmental, (NSE-12), “Environmental protection strategies for sustainable environment” June 5-7, 2003, Organized by HNB Garhwal University and BARC-Mumbai.

### **Invited Lectures Delivered in National Seminars/Symposia**

- National Seminar on **Pesticides food safety and environment** November 08, 2011 organized by Department of Chemistry and Microbiology, G. B. Pant University Agriculture and Technology, Pantnagar.(U.S. Nagar India) on the topic “**Pesticide formulations**”
- National Seminar on **Chemistry Biology Interface: Recent Trends** October 28-30, 2010 organized by Department of Chemistry, Govt. P. G. College Ranikhet Uttarakhand and U.G.C. New Delhi on the topic “**Atomic Absorption Spectrometry in Micronutrient Analysis**”
- National Seminar on **Recent Trends in Chemical Science** October 23, 2010 Organized by St. Joseph’s college for Women Civil Lines Gorakhpur, U.P. on the topic “**Chromatography: An important analytical technique for analysis of pesticides Mycotoxin and drug residue in food**”