# **Curriculum Vitae**

# Dr. Rajesh Singh Yadav

Neurotoxicology Laboratory
Developmental Toxicology Division
CSIR - Indian Institute of Toxicology Research
M.G. Marg, Post Box No. 80
Lucknow – 226 001 (UP), India

Email: <razitrc@gmail.com> Mobile: +91- 98397 83847

Phone +91 (522) 262 7586, Ext. 339



### **Educational Qualification**

2012 Ph.D. (Toxicology), All formalities including defence completed, Jamia

Hamdard (Hamdard University), New Delhi, India

Thesis Title: Efficacy of curcumin and selected natural extracts against

neurobehavioral toxicity of arsenic and monocrotophos

Work Place: Ph.D. Research work has been carried out at CSIR-Indian

Institute of Toxicology Research, Lucknow, a premier

Institute of the country

2004 M. Sc. (Forensic Science) First Division

Bundelkhand University, Jhansi, (UP), India

2002 B. Sc. (Chemistry, Zoology and Botany) First Division

CSJM University, Kanpur, (UP), India

# **Appointments**

### August 14, 2008 – August 13, 2011

Senior Research Fellow (University Grants Commission, New Delhi, India) Neurotoxicology Laboratory, Developmental Toxicology Division CSIR-Indian Institute of Toxicology Research M.G. Marg, Lucknow – 226 001 (UP), India

#### August 14, 2006 - August 13, 2008

Junior Research Fellow (University Grants Commission, New Delhi, India) Neurotoxicology Laboratory, Developmental Toxicology Division CSIR-Indian Institute of Toxicology Research M.G. Marg, Lucknow – 226 001 (UP), India

### **Achievements**

 Qualify UGC - NET (National Eligibility Test for Lectureship) exam in December 2003 and June 2005 Organized by University Grants Commission, New Delhi, India.  Qualify UGC - NET - JRF (National Eligibility Test for Junior Research Fellowship and Lectureship) exam in December 2005 Organized by University Grants Commission, New Delhi, India.

#### **Honours / Awards**

- Awarded Second Prize for Science Poster and Chart Competition on National Science Day, February 28, 2003 at Bundelkhand University, Jhansi, India.
- Awarded First Prize for the Best Business Plan Presentation at 5<sup>th</sup> Programme on Technology Led Entrepreneurship held at Indian Institute of Chemical Technology (IICT), Hyderabad from June 2 - 28, 2008, organized by Council of Scientific and Industrial Research (CSIR), New Delhi, India
- Jyotsnamoyee Raghunath Bhattacharya Prize for the best paper published entitled Attenuation of arsenic neurotoxicity by curcumin in rats, Toxicology and Applied Pharmacology 2009, 240 (3):367-376 by the Indian Academy of Neurosciences at its annual meeting held at NIMS University, Jaipur, India from December 18 20, 2009.
- Molecular Chemoprevention and Therapeutics (MCT) University of Minnesota Research Excellence Award for the paper entitled Arsenic induced dopaminergic dysfunction in rats and protective efficacy of curcumin at the annual meeting of STOX from December 09 -11, 2010 at Jamia Hamdard, New Delhi, India.
- Travel Award for Excellent presentation of the paper entitled Modulating effect of Bacopa monniera against monocrotophos induced cholinergic and dopaminergic dysfunctions in rats at the 34th Annual Meeting of the Japan Neuroscience Society (JNS) being held on September 14 -17, 2011 at Yokohama, Japan. Neuroscience Research, vol. 71, Supplement, September 2011, Page e320.
- Professor R. Nath Memorial Travel Award (Indian Academy of Neurosciences) for presentation of paper entitled Ameliorating effect of *Bacopa monniera* against monocrotophos induced oxidative stress and cholinergic deficits in rats at the XXIX Annual Meeting of Indian Academy of Neurosciences from October 30 - November 01, 2011 at New Delhi, India.
- International Brain Research Organization (IBRO) Travel Fellowship to attend IBRO-APRC Associate School held from November 07 11, 2011 at Taiyuan, China.
- Congress Travel Award to present paper entitled Arsenic induced dopaminergic deficits and protection by curcumin in rats at the at XIX World Congress on Parkinson's Disease and Related Disorders being held from December 11 – 14, 2011 at Shanghai, China. Parkinsonism and Related Disorders, vol. 18, Supplement 2 (2012) S213–S214.
- ISN-APSN- IBRO Travel Fellowship to attend ISN-APSN- IBRO School being held from September 25 28, 2012 at Osaka University School of Medicine and Nara Institute of Science and Technology, Osaka, Japan.
- Best student poster presentation award for presentation of paper entitled Arsenic induced cholinergic deficits and protective efficacy of curcumin in rat brain at the 11th Biennial Meeting of the Asian Pacific Society for Neurochemistry and the 55th Annual Meeting of the Japanese Society for Neurochemistry held at Kobe, Japan from September 30 – October 02, 2012.
- Professor R. Nath Memorial Travel Award (Indian Academy of Neurosciences) for presentation of paper entitled Monocrotophos induced brain dopaminergic and cholinergic impairments and protective efficacy of *Bacopa monnieri* in rats at the XXX Annual conference of Indian Academy of Neurosciences and International Symposium on Translational neuroscience: Unravelling the Mysteries of Brain in Health and Disease held at Amritsar, India from October 27 - 30, 2012.

### **Research Interest**

**General** Neurochemistry / Neurotoxicity and Neuroprotection

**Specific** Decipher and understand the molecular mechanism of neuroprotection

of selected natural extracts against neurobehavioral toxicity of

selected neurotoxicants

## **Techniques Specialized In**

Assay of neurobehavioral endpoints including open field activity, rota-rod performance, grip strength, learning activity etc.

Assay of neurotransmitter receptors using radio-ligand binding technique in brain regions Expression of apoptotic and other proteins involved in the synaptic transmission through western blot analysis

Expression of mRNA of various receptors and its subtypes involved in the neurotransmission process through RT-PCR

Estimation of heavy metals in brain through Atomic Absorption Spectrophotometer Estimation of neurotransmitter levels through High Pressure Liquid Chromatography Estimation of enzymes involved in the synthesis/catabolism of neurotransmitters in brain Assay of parameters related with oxidative stress and antioxidant defence system in brain

### Title of Ph.D. Thesis

Efficacy of curcumin and selected natural extracts against neurobehavioral toxicity of arsenic and monocrotophos

### Summary of work done:

Enhanced industrial and anthropogenic activities have resulted to introduce a number of chemicals including heavy metals, solvents, pesticides, monomers etc. into the environment. As most of these agents are neurotoxic, exposure at low levels to such chemicals may affect the biochemical and physiological processes and disrupt the functioning of the brain leading to neurobehavioral abnormalities. Presence of high levels of arsenic in groundP water, as a contaminant, has been detected in some regions in India and several other countries and therefore poses risk of exposure of humans to this metal. Human exposure to monocrotophos, an organophosphate pesticide widely used in agriculture and public health programme to control insects and vectors is quite imminent and associated with neurological disorders involving cognitive deficits. Of various organs in the body, brain is a soft target to arsenic leading to neurobehavioral abnormalities. In view of the continued exposure to arsenic and monocrotophos and their associated risk of neurotoxicity, studies have been carried out to investigate neuroprotective efficacy of curcumin, known to possess multiple pharmacological activities and *Bacopa monnieri*, a cognitive enhancer against neurobehavioral toxicity of arsenic and monocrotophos respectively in rats.

A decrease in the binding of <sup>3</sup>H-Spiperone to striatal membrane, known to label dopamine-D2 receptors, DA-D2 receptor gene and expression of tyrosine hydroxylase in striatum associated with decrease motor activity and rota-rod performance was observed in arsenic treated rats as compared to controls. Arsenic exposure to rats also cause a decrease in the binding of <sup>3</sup>H-QNB to frontocortical and hippocampal membranes, known to label muscarinic-cholinergic receptors, CHRM2 receptor gene, expression of ChAT and activity of acetylcholinesterase in frontal cortex and hippocampus associated with learning and memory deficits and decreased grip strength in comparison to controls. An increase in arsenic levels, biogenic amine levels in different brain

regions associated with enhanced oxidative stress was observed in arsenic treated rats. Simultaneous treatment with arsenic and curcumin (100 mg/kg, p.o., 28 days) in rats caused increased motor activity, rota-rod performance associated with increase in the binding of striatal dopamine receptors, DA-D2 receptor gene and expression of tyrosine hydroxylase in striatum and also improved the learning and memory, grip strength associated with increase in the binding of cholinergic receptors, CHRM2 receptor gene, expression of ChAT and activity of acetylcholinesterase in frontal cortex and hippocampus as compared to those treated with arsenic alone. A decrease in arsenic levels, biogenic amine levels and oxidative stress in brain regions was also evident in rats simultaneously treated with arsenic and curcumin. A significant protection on behavioral, neurochemical and immunohistochemical parameters in rats simultaneously treated with arsenic and curcumin.

A significant impairment in motor activity and rota-rod performance associated with decreased binding of dopamine receptors, DA-D2 receptor gene and expression of tyrosine hydroxylase protein in corpus striatum was observed in rats treated with monocrotophos (1.0 mg/kg body weight, p.o., 28 days) as compared to controls. These rats also exhibited a significant decrease in grip strength and learning and memory activity associated with decreased binding of muscariniccholinergic receptors, CHRM2 receptor gene, expression of ChAT and activity of acetylcholinesterase in frontal cortex and hippocampus as compared to controls. Simultaneous treatment of monocrotophos and B. monnieri (50 mg/kg, body weight, p.o., 28 days) in rats caused increase in motor activity, rota-rod performance and increased binding of dopamine receptors, DA-D2 receptor gene and expression of tyrosine hydroxylase protein in corpus striatum as compared to rat treated with monocrotophos alone. Binding of muscuranic-cholinergic receptor, CHRM2 receptor gene, expression of ChAT and activity of acetylcholinesterase in frontal cortex and hippocampus was also found to be increased in rats simultaneously treated with monocrotophos and B. monnieri as compared to those treated with monocrotophos alone. The results of the present study indicate that simultaneous treatment with B. monnieri significantly modulates the cholinergic and dopaminergic functions and reveal its protective efficacy against monocrotophos induced neurotoxicity in rats.

## Training undertaken / Attended programme

- Training on immunohistochemistry applications at Department of Anatomy, All India Institute of Medical Sciences (AIIMS), New Delhi from dated May 21, 2007 to June 20, 2007.
- Attended 5<sup>th</sup> Programme on Technology Led Entrepreneurship held at Indian Institute of Chemical Technology (IICT), Hyderabad from June 2, 2008 to June 28, 2008, organized by Human Resource and Development, Council of Scientific and Industrial Research (CSIR), New Delhi.
- Attended NBNI Workshop on Neurobiology and Neuroinformatics held on 9-10 December 2008 at Cochin University of Science & Technology, Cochin, Kerala, India.
- Attended National Academy of Sciences, India (NASI) Students-Neuroscientists Interaction Meet - 2008 held on December 12, 2008 at Cochin University of Science & Technology, Cochin, Kerala, India.
- Attended IBRO-APRC Associate School held at Taiyuan, China organized of Shanxi Medical University, Shanxi and International Brain Research Organization (IBRO) from November 07 - 11, 2011.
- Attended IBRO-ISN-APSN School on Electrophysiology (extracellular and intracellular recording) held at Nara institute of Science and Technology, Nara and Osaka University, Osaka, Japan organized of International Society for Neurochemistry, Asian Pacific Society for Neurochemistry and International Brain Research Organization (IBRO) from September 25 - 28, 2012.

## Research Paper Published / In Press

- Rakesh Shukla, Vinay K Khanna, Vinod Praveen, Madhu L Sankhwar and Rajesh S Yadav (2009). Platelets dopamine - D2 receptor binding in patients with migraine. Cephalalgia 29 (5); 532 -538 (PMID:19170695).
- 2. **Rajesh S Yadav,** Madhu L Sankhwar, Rajendra K Shukla, Aditya B Pant, Ramesh Chandra, Fakhrul Islam and Vinay K Khanna (2009). Attenuation of arsenic neurotoxicity by curcumin in rats. Toxicology and Applied Pharmacol. 240:367-376 (PMID:19631675).
- 3. **Rajesh S Yadav,** Rajendra K Shukla, Madhu L Sankhwar, Aditya B Pant, Devendra K Patel, Reyaz W Ansari, Fakhrul Islam and Vinay K Khanna (2010). Neuroprotective effect of curcumin in arsenic induced neurotoxicity in rats. NeuroToxicology, 31 (2010) 533–539 (PMID:20466022).
- Rajesh S Yadav, Lalit P Chandravanshi, Rajendra K Shukla, Madhu L Sankhwar, Reyaz W Ansari, Pradeep K Shukla, Aditya B Pant and Vinay K Khanna (2011). Neuroprotective efficacy of curcumin in arsenic induced cholinergic dysfunctions in rats. NeuroToxicology 32 (2011) 760–768 (PMID:21839772).
- Madhu L Sankhwar, Rajesh S Yadav, Rajendra K Shukla, Aditya B Pant, Dhirendra Singh, Devendra Parmar and Vinay K Khanna (2012). Impaired cholinergic mechanisms following exposure to monocrotophos in young rats. Human and Experimental Toxicology 31(6):606-616 (PMID:21508071).
- 6. Madhu L Sankhwar, **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant, Dhirendra Singh, Devendra Parmar and Vinay K Khanna (2012). Alterations in dopaminergic and serotonergic system and enhanced oxidative stress in the neurotoxicity of monocrotophos in young rats. Toxicology and Industrial Health (In Press).
- Reyaz W Ansari, Rajendra K Shukla, Rajesh S Yadav, Kavita Seth, Aditya B Pant, Dhirendra Singh, Ashok K Agrawal, Fakhrul Islama and Vinay K Khanna (2012). Cholinergic dysfunctions and enhanced oxidative stress in the neurobehavioral toxicity of lambda-cyhalothrin in developing rats. Neurotoxicity Research 22:292–309 (PMID:22327935).
- 8. Reyaz W Ansari, Rajendra K Shukla, **Rajesh S Yadav**, Kavita Seth, Aditya B Pant, Dhirendra Singh, Ashok K Agrawal, Fakhrul Islama and Vinay K Khanna. Involvement of dopaminergic and serotonergic system in the neurobehavioral toxicity of lambda-cyhalothrin in developing rats. Toxicol. Letters 20; 211:1-9 (PMID:22366556)

### **Book Published**

- Book entitled "Principle of Laboratory Techniques and Methods" Published from International Book Distributing Co. Lucknow (UP), India.
- Book entitled "Practical Zoology for B.Sc. III Year" Published from Hi Tech Publications Meerut (UP), India.

## Papers Presented at the Conferences / Symposia / Seminars

- 1. **Rajesh S Yadav**, Madhu L Sankhwar, Pramod Kumar, Aditya B Pant and Vinay K Khanna, Attenuation of neurobehavioral toxicity of rotenone by curcumin in rats. Annals of Neurosciences 14, 80 (P08), 2007.
  - Paper presented at International Symposium on Advances in Neurosciences and Silver Jubilee conference of Indian Academy of Neurosciences held on November 22- 25, 2007 at Banaras Hindu University, Varanasi, India.
- 2. Madhu L Sankhwar, **Rajesh S Yadav**, Aditya B Pant, Dhirendra Singh and Vinay K Khanna, Neurobehavioral toxicity of monocrotophos following post-lactational exposure in rats. Annals of Neurosciences 14, 79 (P05), 2007.
  - Paper presented at the International Symposium on Advances in Neurosciences and Silver Jubilee conference of Indian Academy of Neurosciences held on November 22 25, 2007 at Banaras Hindu University, Varanasi, India.
- 3. **Rajesh S Yadav**, Madhu L Shankhwar, Rajendra K Shukla, Aditya B Pant, Ramesh Chandra, and Vinay K Khanna, Protective role of curcumin against arsenic induced neurobehavioral toxicity in rats. Annals of Neuroscience 15, 47 (OP6), 2008. Paper presented at the International Conference on Advances in Neurosciences and XXVI Annual Meeting of Indian Academy of Neurosciences held on December 12 14, 2008 at Cochin University of Science & Technology, Cochin, Kerala, India.
- 4 Rajendra K Shukla, **Rajesh S Yadav**, Madhu L Shankhwar, Reyaz W Ansari, and Vinay K Khanna. Effect of immobilization stress on the neurobehavioral toxicity of monocrotophos in rats. Annals of Neuroscience 16, 88 (PS I 42) 2009.

  Paper presented at the XXVII Annual Conference of Indian Academy of Neurosciences being held from December 18 20, 2009 at NIMS, University, Jaipur, Rajasthan, India.
- 5. **Rajesh S Yadav**, Madhu L Shankhwar, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Neuroprotective efficacy of curcumin in arsenic induced cholinergic dysfunctions in rats. Annals of Neuroscience 16, 118 (PS II 99)) 2009.

  Paper presented at the XXVII Annual Conference of Indian Academy of Neurosciences being held from December 18 20, 2009 at NIMS, University, Jaipur, Rajasthan, India.
- 6. Madhu L Shankhwar, **Rajesh S Yadav**, Rajendra K. Shukla, Aditya B Pant, Dhirendra Singh and Vinay K Khanna. Prenatal Exposure to Monocrotophos and Neurobehavioral Toxicity in Developing Rats. Annals of Neuroscience 16, 117 (PS II 98)) 2009. (Paper presented at the XXVII Annual Conference of Indian Academy of Neurosciences being held from December 18 20, 2009 at NIMS, University, Jaipur, Rajasthan, India).
- 7. Vinay K Khanna, **Rajesh S Yadav** and Aditya B Pant. Curcumin: A neuroprotectant with multiple biological activities.

  Paper presented in new biology section at the 97<sup>th</sup> Indian Science Congress being held from January 03 07, 2010 at Thiruvananthapuram, Kerala, India.
- 8. Vinay K Khanna and **Rajesh S Yadav**. Curcumin: A neuroprotective agent.

  Paper presented at the Symposium on Natural products in health and disease: Biochemical and molecular mechanism being held from March 5 6, 2010 at Punjab University, Chandigarh, India.
- 9. Madhu L Shankhwar, **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Lactational exposure to monocrotophos and neurobehavioral toxicity in rat pups. Annals of Neuroscience 17, 085 (P 75) 2010.

  Paper presented at the 5<sup>th</sup> Conference of Federation of Asian-Oceanian Neuroscience societies and XXVIII Annual Meeting of Indian Academy of Neurosciences being held from November 25 -28, 2010 at Lucknow, India.

- 10. Rajendra K Shukla, Rajesh S Yadav, Madhu L Shankhwar and Vinay K Khanna. Effect of immobilization stress on neurobehavioral toxicity of lambda-cyhalothrin in rats: fouus on cholinergic function. Annals of Neuroscience 17, 086 (P 76) 2010. Paper presented at the 5<sup>th</sup> Conference of Federation of Asian-Oceanian Neuroscience societies and XXVIII Annual Meeting of Indian Academy of Neurosciences being held from November 25 -28, 2010 at Lucknow, India.
- 11. Lalit P Chandravanshi, Rajesh S Yadav, Rajendra K Shukla and Vinay K Khanna. Neurobehavioral toxicity of arsenic in developing rats. Annals of Neuroscience 17, 087 (P – 78) 2010.

Paper presented at the 5<sup>th</sup> Conference of Federation of Asian-Oceanian Neuroscience societies and XXVIII Annual Meeting of Indian Academy of Neurosciences being held from November 25 -28, 2010 at Lucknow, India.

- 12. **Rajesh S Yadav**, Rajendra K Shukla, Madhu L Shankhwar, Aditya B Pant and Vinay K Khanna. Protective role of *Bacopa monniera* against monocrotophos induced neurobehavioral toxicity in rats. Annals of Neuroscience 17, 094 (P 99) 2010. *Paper presented at the 5<sup>th</sup> Conference of Federation of Asian-Oceanian Neuroscience societies and XXVIII Annual Meeting of Indian Academy of Neurosciences being held from November 25 -28, 2010 at Lucknow, India.*
- 13. **Rajesh S Yadav**, Madhu L Shankhwar, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Arsenic induced dopaminergic dysfunction in rats and protective efficacy of curcumin.

Paper presented at the 30<sup>th</sup> Annual Conference of Society of Toxicology and Symposium on Strategies for safety Study Requirements for Herbal Formulations being held from December 09 -11, 2010 at Jamia Hamdard, New Delhi. India.

- 14. **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Alleviating effect of *Bacopa monniera* against monocrotophos induced non-cholinergic dysfunctions in rats. *Paper presented at the International Symposium on Neuron: Degeneration, Regeneration and Proliferation being held from January* 29 -31, 2011 at Kolkatta, India.
- 15. Rajendra K Shukla, **Rajesh S Yadav** and Vinay K Khanna. Influence of Immobilization stress on the neurobehavioral toxicity of lambda-cyhalothrin in rats.

  Paper presented at the International Symposium on Neuron: Degeneration, Regeneration and Proliferation being held from January 29 -31, 2011 at Kolkatta, India.
- 16. Vinay K Khanna and **Rajesh S Yadav**. Neuroprotective potential of curcumin with multiple pharmacological spectrum.

  Paper presented at the International Symposium on Neuron: Degeneration, Regeneration and Proliferation being

Paper presented at the International Symposium on Neuron: Degeneration, Regeneration and Proliferation being held from January 29 -31, 2011 at Kolkatta, India.

- 17. Vinay K Khanna and **Rajesh S Yadav**. Protective role of *Bacopa monniera* against monocrotophos induced neurobehavioral toxicity in rats. Annals of Neuroscience 17, 094 (P 99) 2010.
  - Paper presented at the First International Convention and 15<sup>th</sup> Annual Conference of Society of Pharmacognosy being held from February 18 -20, 2011 at KLE University, Belgaum, Karnataka, India.
- 18. **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Modulating effect of *Bacopa monniera* against monocrotophos induced cholinergic and dopaminergic dysfunctions in rats Neuroscience Research, vol. 71, Supplement, September 2011, Page e320.

Paper presented at the 34th Annual Meeting of the Japan Neuroscience Society (JNS) being held on September 14 - 17, 2011 at Yokohama, Japan.

19. **Rajesh S Yadav**, Madhu L Sankhwar, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Ameliorating effect of *Bacopa monniera* against monocrotophos induced oxidative stress and cholinergic deficits in rats.

- Paper presented at the at XXIX Annual Meeting of Indian Academy of Neurosciences being held at New Delhi from October 30 November 01, 2011.
- 20. Vinay K Khanna, **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant. Arsenic induced cholinergic and dopaminergic dysfunctions and protection by curcumin in rats. *Paper presented at the at XXIX Annual Meeting of Indian Academy of Neurosciences being held at New Delhi from October 30 November 01, 2011.*
- 21. **Rajesh S Yadav**, Lalit P Chandravanshi, Aditya B Pant and Vinay K Khanna. Arsenic induced dopaminergic deficits and protection by curcumin in rats. Parkinsonism and Related Disorders, vol. 18, Supplement 2 (2012) S213–S214.

  Paper presented at the at XIX World Congress on Parkinson's Disease and Related Disorders held at Shanghai, China from December 11 14, 2011.
- 22. Lalit P. Chandravanshi, **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Neurobehavioral modifications following arsenic exposure in developing rats. *Paper presented at the 9th Biennial Meeting of International Society for Developmental Neuroscience being held at Mumbai, India from January 11-14, 2012.*
- 23. **Rajesh S Yadav**, Lalit P Chandravanshi, Aditya B Pant and Vinay K Khanna. Arsenic induced cholinergic deficits and protective efficacy of curcumin in rat brain. Journal of Neurochemistry, vol 123, Supplement 1 (2012) 85.
  - Paper presented at the 11th Biennial Meeting of the Asian Pacific Society for Neurochemistry and the 55th Annual Meeting of the Japanese Society for Neurochemistry held at Kobe, Japan from September 30 October 02, 2012.
- 24. **Rajesh S Yadav**, Rajendra K Shukla, Aditya B Pant and Vinay K Khanna. Monocrotophos induced brain dopaminergic and cholinergic impairments and protective efficacy of *Bacopa monnieri* in rats. Annals of Neurosciences, vol 19, Supplement, October (2012) 69.
  - Paper presented at the XXX Annual conference of Indian Academy of Neurosciences and International Symposium on Translational neuroscience: Unravelling the Mysteries of Brain in Health and Disease held at Amritsar, India from October 27 30, 2012.
- 25. Pranay Srivastava **Rajesh S Yadav**, Rajendra K Shukla, Lalit P Chandravanshi, Yogesh Dhuriya, LKS Chauhan, Aditya B Pant and Vinay K Khanna. Protective efficacy of curcumin in arsenic induced mitochondrial dysfunctions, apoptosis and memory impairment in rats. Annals of Neurosciences, vol 19, Supplement, October (2012) 32.
  - Paper presented at the XXX Annual conference of Indian Academy of Neurosciences and International Symposium on Translational neuroscience: Unravelling the Mysteries of Brain in Health and Disease held at Amritsar, India from October 27 30, 2012.
- 26. Rajendra K Shukla, Yogesh Dhuriya, Lalit P Chandravanshi, P. Srivastava, **Rajesh S Yadav** and Vinay K Khanna. Impact of immobilization stress on neurobehavioral toxicity of lambdacyhalothrin in rats: Focus on dopaminergic system. Annals of Neurosciences, vol 19, Supplement, October (2012) 69.
  - Paper presented at the XXX Annual conference of Indian Academy of Neurosciences and International Symposium on Translational neuroscience: Unravelling the Mysteries of Brain in Health and Disease held at Amritsar, India from October 27 30, 2012.
- 27. Lalit P Chandravanshi, **Rajesh S Yadav**, Rajendra K Shukla and Vinay K Khanna. Alterations in brain biogenic amines and nitric oxide following arsenic exposure in developing rats. Annals of Neurosciences, vol 19, Supplement, October (2012) 55.
  - Paper presented at the XXX Annual conference of Indian Academy of Neurosciences and International Symposium on Translational neuroscience: Unravelling the Mysteries of Brain in Health and Disease held at Amritsar, India from October 27 30, 2012.

28. Vinay K Khanna, Reyaz W Ansari, Rajendra K Shukla, Rajesh S Yadav and Aditya B Pant. Involvement of dopaminergic and cholinergic systems in the neurotoxicity of lambdacyhalothrin in developing rats. Annals of Neurosciences, vol 19. Supplement, October (2012) 14.

Paper presented at the XXX Annual conference of Indian Academy of Neurosciences and International Symposium on Translational neuroscience: Unravelling the Mysteries of Brain in Health and Disease held at Amritsar, India from October 27 - 30, 2012.

### **Personal Details:**

Father's Name : Mr. Sobaran Singh Yadav

Address for : Developmental Toxicology Division

CSIR - Indian Institute of Toxicology Research Correspondence

> M.G. Marg, Post Box No. 80 Lucknow - 226 001 (UP), India

Permanent Address : Beheta Chand Lucknow Road, Near Atul Automobiles

Lucknow Road, Hardoi - 241 001 (UP), India

Language Known : Hindi and English

## **Memberships**

- Life Member of Indian Academy of Neurosciences (IAN), Lucknow, (UP), India
- Life Member of Society of Toxicology, (UP), India
- Life Member of Uttar Pradesh Association of Science and Technology Advancement (UPASTA), Lucknow, (UP), India
- Student Member of Asian Pacific Society for Neurochemistry
- Student Member of International Brain Research Organization (IBRO), France
- Student Member of Japan Neuroscience Society (JNS), Japan
- Executive Member of Forensic Science Development Society (FSDS), Lucknow, India
- Executive Member of Environment and Rural Development Society (UP), India

#### References

### Dr. Vinay K Khanna

Principal Scientist Neurotoxicology Laboratory CSIR - Indian Institute of Toxicology Research Post Box 80, M.G. Marg Lucknow - 226 001 (UP), INDIA

E-mail: vkkhanna1@gmail.com

Phone: +91 - 522- 2627586 Ext. 339, 336

### Dr. Devendra Parmar

Senior Principal Scientist & Head Developmental Toxicology Division CSIR - Indian Institute of Toxicology Research Post Box 80, M.G. Marg Lucknow - 226 001 (UP), INDIA E-mail: parmar\_devendra@hotmail.com

Phone: +91 - 522- 2627586 Ext. 261

## Dr. Aditya B Pant

Senior Scientist In Vitro Toxicology Laboratory CSIR - Indian Institute of Toxicology Research Post Box 80, M.G. Marg Lucknow - 226 001 (UP), INDIA

E-mail: abpant@rediffmail.com Phone: +91 - 522- 2627586 Ext. 321

### **Declaration**

I hereby declare that all the information furnished above is true to the best of my knowledge and belief, and no related information is concealed.

Date: December 12, 2012

Place: Lucknow (Rajesh Singh Yadav)