

ACADEMIC PROFILE

Dr. Vijay Kumar (Ph.D, PGIMER, Chandigarh)
Assistant Professor
Dept. of Biochemistry,
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Positions Held

- **Assistant Professor**, Department of Biochemistry, Maharshi Dayanand University, Rohtak -India (16th March, 2010 onwards)
- **Demonstrator**, Department of Biochemistry, PGIMER, Chandigarh, India (29th April, 2009 to 15th March, 2010).

Higher Education & Research

- **Ph.D.** Post Graduate Institute of Medical Education and Research, Chandigarh, India (July, 2006 – August, 2009)
- **M.Sc. (Biochemistry)**, Maharshi Dayanand University, Rohtak (India) (1st Division, 72.14%, July 2002 – Jun, 2004)
- **B.Sc. (Botany, Chem, Zoology)**, Panjab University, Chandigarh (India) (1st Division, 71.50%), (July, 1999 – June, 2002)

Distinctions/Scholarships

- Awarded **gold medal** of PGIMER, Chandigarh for the best published research work in Biomedical sciences for the paper entitled “Susceptibility of Mitochondrial Superoxide Dismutase to Aluminium Induced Oxidative Damage” (2009).
- Qualified **ICMR-JRF**, held by Indian Council of Medical Research, New Delhi, India. (2005).

Academic Achievements

- Member of court of M.D. University w.e.f. 26.07.12 for three years.
- Member of PG Board of Studies of M.D. University w.e.f. April, 2012 for two years

Research Interests

- Oxidative stress induced modifications of mitochondrial proteins and apoptosis,

Publications: 16

- (International Journals **08**, National Journal(s) **08**)

Research Project(s)-3

- To study the changes in antioxidant gene expression and induction of oxidative stress in aluminium toxicity in sorghum (2011-13).
- Role of NRF-1 and NRF-2 in bigenomic transcriptional regulation of cytochrome c oxidase subunits in response to arsenic induced oxidative stress in rat brain (2013-16, 22.0 lac)

- To evaluate the protection of arsenic induced oxidative stress, mitochondrial oxidative damage and apoptotic cell death by hydroxytyrosol in rat brain (2013-2016, 18.2 lac)

Research Guidance

- PhD- 2 (registred)
- MSc (Dissertations) - 11

Conference/Workshop Organization

- **Joint-Secretary**, National workshop on “Genomics and Proteomics” organized by Dept of Biochemistry, M.D. University, Rohtak (Haryana) (3rd March, 2014-5th March, 2014).
- **Member**, organizing committee of DST-INSPIRE PROGRAMME organized by Centre for Biotechnology, M. D. University, Rohtak (April 28-May 2, 2012).
- **Joint-Secretary**, International conference on “Molecular Techniques: the face of modern Science” organized by Dept of Biochemistry, M.D. University, Rohtak (Haryana) (24th Oct. 2011).
- **Member**, Local organization committee of one day **India-Japan seminar**, Dept of Biochemistry, M.D. University, Rohtak (Haryana) (30th Oct. 2010).

Conference / Symposium / Lectures Participation

- Presented a paper entitled “Oxidative DNA damage and disruption of cell cycle regulatory proteins following chronic aluminium exposure in rat brain” 33rd Annual Conference of Society of Toxicology (STOX) and National Symposia on “Toxicogenomic technologies in predictive toxicology”, “Alternatives to use of animals for modern toxicity testing” and Phyto-remedial approaches against environmental pollutants for human and animal health” held from 22nd-25th October, 2013 at College of Veterinary Science & Animal Husbandry, DUVASU, Mathura, India
- Participated as delegate in the SNCI preconference workshop on “Techniques in Neurochemistry and Molecular Neurobiology” organized by AIIMS, New Delhi from 14th to 20th February, 2013 at AIIMS, New Delhi.
- Presented a paper entitled “Chronic Aluminium Exposure Targets Mitochondrial Proteins: A Mechanism of Neurodegeneration” in XXX Annual Conference of Indian Academy of Neurosciences (IAN) & International Symposium on Translational Neurosciences: Unraveling Mysteries of Brain in Health and Disease at GNDU, Amritsar, India (27th-30th Oct, 2012).
- Presented a paper entitled “Response of antioxidant enzymes to aluminium induced oxidative stress in sorghum roots and leaves” in XXXI meeting of **Society of Toxicology** of India at Jaipur, India (22nd-24th Dec, 2011).
- Presented a paper entitled “Oxidative modifications of mitochondrial proteins following chronic aluminium exposure in rat brain” in the international conference on “**Molecular Mechanisms of Diseases**”, at DRDE, Gwalior, India (15th-16th Dec, 2008).

- Made an **Oral presentation** of a research paper entitled “Aluminium induced oxidative damage is associated with DNA damage recognition and increase in p53 expression” at the international symposium on “**Molecular aspects of brain aging and neurological disorders**” and annual meeting of Society for Neurochemistry, GNDU, Amritsar, India (28th – 29th Nov, 2008).
- Presented a paper entitled “Impairment of mitochondrial energy metabolism in different regions of rat brain after chronic exposure to aluminium” in XXVII meeting of **Society of Toxicology of India** at Bangalore, India (6th-7th Oct, 2007).

Scientific Membership:

- Life member “Indian Academy of Neuroscience” (IAN). (membership No LK-90)
- Life member “Society For Neurochemistry (India): membership no-LMI-387

Publications

1. **Vijay Kumar** and Kiran Dip Gill. Oxidative Stress and Mitochondrial Dysfunction in Aluminium Neurotoxicity and Its Amelioration: A Review. *Neuro Toxicology*, 2014: 41; 154-166.
2. Chandra Prakash and **Vijay Kumar**. Transcriptional and enzymatic regulation of antioxidant enzymes in aluminium induced oxidative stress in Sorghum roots and leaves. *International journal of current research*. 2014;6(2); 4858-65.
3. Hitesh Kumar, Dushyant Sharma and **Vijay Kumar**. Nickel-induced oxidative stress and the role of antioxidant defence in the Barley roots and leaves. *International journal of Environment Biology*. 2012; 2(3):121-128.
4. Raina Dua, Aditya Sunkaria, **Vijay Kumar** and Kiran Dip Gill. Impaired mitochondrial energy metabolism and kinetic properties of cytochrome oxidase following acute aluminium phosphide exposure in rat liver. *Food and Chemical Toxicology*. 2010;48:53-60. (Impact factor 2.99) CI=3
5. Raina Dua, **Vijay Kumar**, Aditya Sunkaria and Kiran Dip Gill. Altered glucose homeostasis in response to aluminium phosphide induced cellular oxygen deficit in rat. *Indian Journal of Experimental Biology*. 2010.48:722-730. CI=2 (Impact F = 0.55)
6. **Vijay Kumar** and Kiran Dip Gill. Aluminium Neurotoxicity: Neurobehavioral and oxidative aspects. *Archives of Toxicology*. 2009; 83(11): 965-78. Review. (Impact factor 4.65) CI=79
7. **Vijay Kumar**, Amanjit Bal and Kiran Dip Gill. Aluminium induced oxidative DNA damage recognition and cell cycle disruption in different regions of rat brain. *Toxicology*. 2009; 264 (3): 137-144. (Impact factor 3.47) CI=7
8. **Vijay Kumar**, Amanjit Bal and Kiran Dip Gill. Susceptibility of Mitochondrial Superoxide Dismutase to Aluminium Induced Oxidative Damage. *Toxicology*. 2009; 255: 217-223. (Impact factor 3.47) CI=19

9. Minakshi Sharma, **Vijay Kumar**, Jitender Kumar and CS Pundir. Preparation of reusable enzyme strips using alkylamine and arylamine glass beads affixed on plastic strips. *Indian Journal of Chemical Technology* 2009; 16: 357-360. IF=0.267
10. Minakshi Sharma, **Vijay Kumar** and C S Pundir. Immobilization of porcine pancreas lipase onto free and affixed arylamine glass beads and its application in removal of oil stains. *Indian Journal of Biotechnology*. 2008; 7: 328-332
11. **Vijay Kumar**, Amanjit Bal and Kiran Dip Gill. Impairment of mitochondrial energy metabolism in different regions of rat brain following chronic exposure to aluminium. *Brain Research*.2008; 1232: 94-103. (Impact factor 2.73) CI=22
12. Pinki Rani, Minakshi Sharma, **Vijay Kumar** and C S Pundir. Immobilization of amylase onto arylamine glass beads affixed inside a plastic beaker: kinetic properties and application. *Indian Journal of Biotechnology*. 2007; 6: 230-233.
13. Nisha Sharma, Minakshi Sharma, **Vijay Kumar** and C. S. Pundir. Measurement of urine and plasma oxalate with reusable strip of amaranthus leaf oxalate oxidase. *Indian journal of pharmaceutical sciences*. 2007, 69: 669-673.
14. A Sharma, P Kaur, **V Kumar** and K D Gill. Attenuation of 1-methyl-4-phenyl-1, 2,3,6-tetrahydropyridine induced nigrostriatal toxicity in mice by n-acetyl cysteine. *Cellular and Molecular Biology*. 2007;53 (1):47-54. (Impact factor 1.5) CI=1
15. Minakshi Sharma, **Vijay Kumar** and C S Pundir. Determination of serum glucose with glucose oxidase immobilized onto affixed egg membrane. *Indian Journal of Chemical Technology*. 2006;13: 544-549. IF=0.267