

ACADEMIC PROFILE



Dr. Vijay Kumar (Ph.D, PGIMER, Chandigarh)
Sr. 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)

Ph.D Thesis Title: Role of mitochondrial energy metabolism, oxidative damage and cell cycle regulatory proteins in aluminium neurotoxicity in rat

Thesis Advisor: Prof. K.D. Gill

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 Departmental Research Committee w.e.f. November 17, 2017 for 2 years
- Member of Faculty of Life Sciences w.e.f. 03.11.17 for one year
- Member of PG Board of Studies of M.D. University w.e.f. April, 2016 for two years
- Secretary, Faculty Club of M.D. University w.e.f. Nov, 2015 for two years
- Member of University Court w.e.f. 26.07.2015 for three years
- Member of the Faculty of Life Sciences appointed by the university (w.e.f. 29.05.2013 for one year)
- Member of University 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 neurodegeneration,

Publications: 22

- (International Journals **14**, National Journal(s) **08**)

Research Project(s) ongoing/completed

UGC minor project

- To study the changes in antioxidant gene expression and induction of oxidative stress in aluminium toxicity in sorghum (2011-13).

DST Projects

- 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, 23.55 lac)

ICMR

- To evaluate the protection of arsenic induced oxidative stress, mitochondrial oxidative damage and apoptotic cell death by hydroxytyrosol in rat brain (2013-2016, 19 lac)

Research Guidance

- PhD- 3, Completed-1, Ongoing - 2
- MSc (Dissertations) - 23

Conference/Workshop Organization

- **Joint-Secretary**, National conference on “Recent Trends in Biochemistry” organized by Dept of Biochemistry, M.D. University, Rohtak (Haryana) (15th -16th March, 2017).
- **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 attended (paper presented)

1. Presented a paper at 36th Annual Conference of Society of Toxicology (STOX) organized by Deptt of Pharmacology, PGIMER, Chandigarh from 17th -19th November, 2017.
2. Presented a paper at National Conference on “Advances in Research on Aging and Neurological Disorders” organized by 31st annual meeting of Society for Neurochemistry, India at BHU, Varanasi, India (20th – 22nd Sept, 2017).
3. Presented a paper at Indian Science Congress, organized by SV University, Tirupati (AP) from 3rd to 7th Jan, 2017.
4. Presented a paper at National Conference on Genetic Diversity and Therapeutic Potential of Natural Products organized by Deptt of Genetics, M.D. University, Rohtak on 17th Sept, 2016.

5. Presented a paper at 35th Annual Conference of Society of Toxicology (STOX) organized by Amity University, Noida (UP) from 3rd -5th August, 2016
6. Presented a paper at 34th Annual Conference of Society of Toxicology (STOX) and on “Challenges and Opportunities in Toxicology research, Education and Product Safety Assessments” organized by Palampur Biosciences Pvt Ltd and SVS Medical College, Mahabubnagar from 19th-21st, Nov 2015 at Hotel Taj Banjara, Hyderabad, India
7. Made an oral presentation at XXXIII Annual Conference of Indian Academy of Neuroscience-Neuroscience Research from Mechanisms to Applications” organized by Panjab University and PGIMER, Chandigarh from 31st- 2ndNov, 2015.
8. Presented a paper at 7th International congress of Asian Society of Toxicology held at ICC JEJU, Jeju Island, South Korea from 23rd-26th June, 2015. **(Financially sponsored by DST, New Delhi)**
9. Made an oral presentation at 4th International conference of International Science Congress Association held at Pacific University, Udaipur, Rajasthan from 8th -9th December, 2014
10. Presented a paper at International Symposium on Translational neuroscience and XXXII Annual Conference of Indian Academy of Neuroscience held at National Institute of Mental Health and Neursciences, Bangalore from 1st to 3rd November, 2014
11. Presented a paper at 33rd Annual Conference of Society of Toxicology (STOX) and National Symposia on “Toxico-genomic 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
12. Presented a paper at 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).
13. Presented a paper at XXXI meeting of **Society of Toxicology** of India at Jaipur, India (22nd-24th Dec, 2011).
14. Presented a paper at the international conference on “**Molecular Mechanisms of Diseases**”, at DRDE, Gwalior, India (15th-16th Dec, 2008).
15. Made an **presentation** 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).
16. Presented a paper at 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
- Life member “ Society of Toxicology, India: membership no- 1013-L
- Life member “Indian Science Congress (membership No L27129)

Book Chapter- Vijay Kumar and Kiran Dip Gill. Mechanistic Aspects of Aluminium Neurotoxicity: Oxidative Stress and Mitochondrial Dysfunctions. Published by Nova Publisher, Inc, New York; 2016; 1-14.

Selected Publications (Last 5 years only)

1. Manisha Soni, Chandra Prakash, Sfurti Sehwaag, **Vijay Kumar**. Protective effect of hydroxytyrosol in arsenic-induced mitochondrial dysfunction in rat brain. *J Biochem Mol Toxicol*. 2017 Feb 22. doi: 10.1002/jbt.21906.
2. Chandra Prakash, Manoj Kumari and **Vijay Kumar**. Transcriptional regulation of cytochrome c oxidase subunits in rat brain following sodium arsenite exposure. *Toxicological & Environmental Chemistry*. 2017; 99 (3): 505-515
3. Chandra Prakash, **Vijay Kumar**. Arsenic-induced mitochondrial oxidative damage is mediated by decreased PGC-1 α expression and its downstream targets in rat brain. *Chemico Biological Interactions*. 2016; 256: 228-35. DOI-10.1016/j.cbi.2016.07.017
4. Chandra Prakash, **Vijay Kumar**. Chronic arsenic exposure-induced oxidative stress is mediated by decreased mitochondrial biogenesis in rat liver. *Biol Trace Elements Res*. 2016; 13(1), 87-95
5. Chandra Prakash, Manisha and **Vijay Kumar**. Mitochondrial oxidative stress and dysfunction in arsenic-induced neurotoxicity: a review. *J Applied Toxicology*. 2016;36, 179-88.
6. Chandra Prakash, Vipin Kumar Kamboj, Pooja Ahlawat and **Vijay Kumar**. Structural and molecular alterations in arsenic-induced hepatic oxidative stress in rats: A FTIR study. *Toxicological & Environmental Chemistry*. 2015; 97(10); 1408-21.
7. Chandra Prakash, Manisha and **Vijay Kumar**. Biochemical and molecular alterations following arsenic induced oxidative stress and mitochondrial dysfunction in rat brain. *Biol Trace Elements Res*. 2015;167(1); 121-129.
8. **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.