


Curriculum Vitae

Full Name:	SUDHIR KUMAR			
Designation:	Assistant Professor			
Department:	Department of Biotechnology			
Campus:	Srinagar / Chauras Campus			
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Email	sudhir.1685@gmail.com			
Education Qualification:	Ph.D., Jawaharlal Nehru University, New Delhi, 2012 M.Sc. Biotechnology, Kumaun University, Nainital, 2007			
Teaching Experience:	~ 9 Years	Research Experience:	~ 9 Years	
Research Interest and Fields of Specialization				
<ol style="list-style-type: none"> 1. Protein Structure and function 2. Macromolecular crystallography 3. Computational Biotechnology 				
Honours & Awards				
<ol style="list-style-type: none"> 1. Best Poster Award by Protein Society USA, at 'International Conference on Biomolecular Forms and Function, A Celebration of 50 years of Ramachandran Map' organized by Indian Institute of Sciences, Bangalore on 8-11 January, 2013. 2. Prof. B. Gopala Ayenger Best Poster Award by Indian Biophysical Society National Symposium on "Frontiers of Biophysics, Biotechnology & Bioinformatics" & 37th Annual Meeting of Indian Biophysical Society (IBS) held on 13-16th January, 2013 at University of Mumbai, India. 3. Qualified CSIR-UGC NET JRF in Life Sciences, June 2006. 4. Qualified GATE exam in Life sciences (2007). 5. Awarded Post-graduate fellowship by Department of Biotechnology, Govt. of India during M.Sc. Biotechnology at Kumaun University, Nainital (2005-2007). 				
Member of Academic Institutions				
Membership of Scientific Organizations				
<ol style="list-style-type: none"> 1. Life Member of Biotechnology Research Society of India (BRSI) 2. Life Member of Indian Crystallographic Association (ICA) 3. Life Member of Indian Biophysical Society (IBS) 				
Research Supervision (No. of Ph.D. Degree Awarded/Submitted/Registered)				
03 Registered				
Research Projects/ MoU undertaken				
<ol style="list-style-type: none"> 1. Biochemical and structural characterization of the peroxiredoxins(s) involved in anti-oxidative defense in protozoan parasites <i>Entamoeba histolytica</i> and <i>Trichomonas vaginalis</i>. UGC-BSR Start-up Grant (2015-2017), Completed. 				
Administrative Experience				
<ol style="list-style-type: none"> 1. Member, Research and Consultancy Coordination Cell (RCCC), HNB Garhwal University, Srinagar (Garhwal) 2. Member, Anti-discrimination Committee, HNB Garhwal University, Srinagar (Garhwal) (2018-2023) 3. Member, Library Coordination Committee, HNB Garhwal University, Srinagar (Garhwal) 4. Member, Institutional Biosafety Committee, HNB Garhwal University, Srinagar (Garhwal) 5. Member, Board of Studies (Biotechnology), HNB Garhwal University, Srinagar (Garhwal) 6. Member, Library Co-ordination Committee, HNB Garhwal University, Srinagar (Garhwal) 7. Program Officer, NSS, Birla Unit, HNB Garhwal University, Srinagar (Garhwal) (2019-2022) 				
Scientific Visits Abroad/ International Collaboration				
<ol style="list-style-type: none"> 1. Visit to Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany from 15th Nov, 2010-15th Dec, 2010. 				

Conference/Symposium/Workshop Attended during last five years (2015-2020)

International

1. **Participated** in webinar titled “Delivery of COVID-19 booster and pediatric vaccines- Lessons from Malaysia, Philippines and the UK” organized by Biomed Journal (BMJ) and Asian Development Bank on 18th February 2022.
2. **Paper presentation** on “Purification and characterization of alkyl hydroperoxidase C, a crucial respiratory antioxidant in *Brucella abortus*” at 2nd International Conference on Recent Advances in Biotechnology and Nanobiotechnology (Int-BIONANO-2022) organized by Amity Institute of Biotechnology, Amity University Madhya Pradesh, Gwalior held on 10-11 February 2022.
3. **Paper presentation** on “Structural studies of different enzymes involved in serine and cysteine biosynthesis in *Entamoeba histolytica*” at EMBL Conference: Bringing Molecular Structure to Life: 50 Years of the PDB organized by European Molecular Biology Laboratory, Heidelberg from 20-22nd October 2021.
4. **Paper presentation** on “Preliminary studies of alkylhydroperoxidase C, a crucial anti-oxidant in *Brucella abortus*” in Virtual International conference on Microbiology (ICMBB 2021) organized jointly by Institute of Microbiology, AS of Uzbekistan and American Society of Microbiology, USA held on 16-17th September 2021.
5. **Paper presentation** on “Searching non-annotated protein in *Brucella* proteome for probable drug targets” at the International Conference on Biotechnology for Sustainable Agriculture, Environment and Health organized jointly by Malaviya National Institute of Technology, Jaipur and the Biotech Research Society, India at Jaipur, India during April 04-08, 2021
6. **Participated** in “Bilateral Indo-US Webinar on COVID Biology”, dated August 16-19, 2020, organized by Indian Institute of Science education and Research Kolkata, India in collaboration with IISc, Bangalore, India, University of Pennsylvania, and the University of Colorado, School of Medicine, USA.
7. **Paper presentation** on '*Entamoeba histolytica* infection and cysteine biosynthesis pathway' at International Symposium on Infectious Diseases during 12-14 November, 2018 organized by Regional Centre for Biotechnology (RCB), Faridabad.
8. **Invited talk** on 'Cysteine biosynthesis in *Entamoeba histolytica*: structural and functional studies' at 6th World congress on Biotechnology and biological studies, 9-11 Nov, 2017, New Delhi.
9. **Paper presentation** on '*In-silico* studies of Peroxiredoxins proteins in protozoans' at International Conference on Structure and Dynamics of Biomolecules (SDBM2017) organized by Department Of Physics, DDU Gorakhpur University, Gorakhpur, UP from January 27-28, 2017.

National

10. **Participated** in Cloud-based Hands-on Short-Term Course (STC) on Computational Structure-based drug design, Biologics design, and Molecular dynamics organized by National Institute of Technology, Raipur with Schrodinger Inc., Bengaluru, India from December 14th-18th 2020.
11. **Participated** in One Day National Webinar entitled ‘Unravelling the National Education Policy 2020’ organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi on 9th August, 2020.
12. **Attended** 2 day online workshop on “DNA-ligand & Protein-Ligand Docking” organized by Qstatix Pvt. Ltd, from 23 -24 Nov, 2019.
13. **Paper Presentation** on 'Characterization of hypothetical proteins of *Brucella abortus*: in search of a valid drug target' at Innovative approaches in Microbial Technology (IAMT 2019) during 8-9 March, 2019 organized by Department of Botany and Microbiology, Gurukul Kangri University, Haridwar.
14. **Paper Presentation** on 'Functional annotation of conserved hypothetical proteins from *Brucella abortus*' at 86th Annual Conference of society of Biological Chemists (SBC-2017) on emerging Discoveries in health and Agricultural Sciences at JNU, N. Delhi from 16-19 Nov, 2017.
15. **Paper presentation** on '*Entamoeba histolytic* and cysteine biosynthesis: How it survives harsh environment' at National Conference on Biotechnology and Environment (NCOBE 2017) organized by Department of Biotechnology, Jamia Millia Islamia (A Central University), New Delhi from 11-12 April, 2017.
16. **Invited lecture** on 'Antioxidative defence in microorganisms: Protozoan case' delivered at National Conference on “Microbes in extreme environment: Diversity and translational applications” organized by Department of Botany and Microbiology, HNB Garhwal University, Srinagar, Uttarakhand on 30-31 October, 2015.

17. **Paper presentation** on “Structural basis of *Bacillus anthracis* MoxXT disruption and the modulation of MoxT ribonuclease activity by rationally designed peptides” at Amebiasis 2015 held at School of Life Sciences, JNU on 20-21 March, 2015.

Conference/Symposium/Workshop Organized during last five years (2015-2020)

1. Member, Organizing committee, National Conference on “Microbes in extreme environment: Diversity and translational applications” organized by Department of Botany and Microbiology, HNB Garhwal University, Srinagar, Uttarakhand from 30-31st October, 2015.
2. Organizing Secretary, “DNA Day” organized by Department of Zoology and Biotechnology, HNB Garhwal University, Srinagar Garhwal from 23-25 April, 2017.
3. Co-organizing Secretary of One day workshop on “Laboratory Bioasafety Protocols”, organized by Institutional Biosafety Committee, HNB Garhwal University, Srinagar Garhwal on 24th April, 2018.
4. Organizing Secretary, “DNA Day” organized by Department of Biotechnology, HNB Garhwal University, Srinagar Garhwal on 25th April, 2020.
5. Organizing Secretary, One Day National Webinar on “Food Security in times of pandemic” organized by Department of Biotechnology, HNB Garhwal University on 16th May, 2020.
6. Coordinated in conducting an “Intellectual Property Awareness program” under National Intellectual Property Rights Awareness Mission on 30th January 2022, organized by Intellectual Property Office, Govt. of India.

Publications

Journals

1. Comparative analyses of the complete mitochondrial genomes of the two filarial worms *Wuchereria bancrofti* & *Brugia malayi* with *Caenorhabditis elegans*. Joshi S, Kumar L, Rauthan K & **Kumar Sudhir***. *Journal of Integrated OMICS*. 12(1): 1-17 (2022).
2. Structural and functional studies of serine acetyltransferase isoform from *Entamoeba histolytica* reveals novel role of the C-terminal tail in loss of regulation from feedback inhibition. Dharavath S, Kumari K, **Kumar Sudhir*** & Gourinath S*. *International Journal of Biological Macromolecules*. 217: 689-700 (2022) (*corresponding authors). (IF~ 8.025)
3. Crp/fnr family protein binds to promoters of atxA and sodM genes that regulate the expression of exotoxins in *Bacillus anthracis*. Goel D, **Kumar Sudhir**, Joshi GK, Rai P & Bhatnagar R. *Protein Expression and Purification*. 193: 106059 (2022). (IF~ 2.025)
4. Co-morbid conditions in COVID-19 patients in Uttarakhand state of India. Goel D & **Kumar Sudhir***. *J Glob Health*. 11: 03029 (2021). (IF~ 7.664)
5. Cloning, expression and purification of alkylhydroperoxidase C, a crucial respiratory antioxidant in *Brucella abortus*. Goel D, Kumar N, Ghosh D & **Kumar Sudhir***. *Indian Journal of Biotechnology*. 19: 273-281 (2020). (IF ~0.45)
6. Wastewater ferti-irrigation: an eco-technology for sustainable agriculture. Singh JS & **Kumar Sudhir**. *Sustainable water resource management*. 6(31) (2020).
7. Annotation and structural modelling of *Brucella abortus* hypothetical protein WP_002969292.1. Rauthan K, Goel D & **Kumar Sudhir**. *Bioinformatics*. 15(5): 315-320 (2019).
8. N-terminal residues are crucial for quaternary structure and active site conformation for the phosphoserine aminotransferase from enteric human parasite *E. histolytica*. Singh RK, Tomar P, Dharavath S, **Kumar Sudhir** & Gourinath S. *International Journal of Biological Macromolecules*. 132: 1012-1023 (2019). (IF~ 8.025)
9. Cloning, Expression, Purification of Characterization of Human Mitochondrial Carbonic Anhydrase VA. Idrees D., **Kumar Sudhir**, Rehman SA, Gourinath S, Islam A, Ahmad F & Hassan I. *3Biotech*. 6(1): 16 (2016). (IF~ 2.893)
10. Crystal structure of serine acetyltransferase from *Brucella abortus* and its complex with Coenzyme A. **Kumar Sudhir**, Kumar N, Alam N & Gourinath S. *Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics*. 1844: 1741-1748 (2014). (IF~ 4.125)
11. Biophysical aspects of lysozyme adduct with monocrotophos. Rao SA, **Kumar Sudhir** & Gourinath S. *Analytical and Bioanalytical Chemistry*. 406(22): 5477-85 (2014). (IF~ 4.478)

12. Structural basis of *Bacillus anthracis* MoxXT disruption and the modulation of MoxT ribonuclease activity by rationally designed peptides. Verma S, **Kumar Sudhir**, Gupta V, Gourinath S, Bhatnagar S & Bhatnagar R. *Journal of Biomolecular Structure and Dynamics*. 33(3): 606-624 (2014). (IF~ 5.235)
13. Single residue mutation in EhSAT3 active site helps in partial regaining of feedback inhibition by cysteine. **Kumar Sudhir**, Mazumder M, Dharavath S. & Gourinath S. *PLoS One*. 8(2): e55932 (2013). (IF~ 3.752)
14. The narrow active site cleft of O-acetyl serine sulfhydrylase from *Leishmania donovani* allows complex formation with serine acetyltransferases having a range of C-terminal sequences. Raj I, **Kumar Sudhir** & Gourinath S. *Acta cryst. Section D*. D 68: 909-919 (2012). (IF~ 7.652)
15. Structural and biochemical studies of Serine Acetyltransferase reveal why the parasite *Entamoeba histolytica* cannot form Cysteine Synthase complex. **Kumar Sudhir**, Raj I, Nagpal I, Subbarao N & Gourinath S. *J. Biol. Chem*. 286(14): 12533–12541 (2011). (IF~ 5.486)

Book Chapter

1. **Kumar Sudhir** & Chauhan JS. Application of Plant-Based Nanoparticles in Wastewater Decontamination. In: Rai, J.P.N., Saraswat, S. (eds) Nano-biotechnology for Waste Water Treatment. (2022) Water Science and Technology Library, vol 111. Springer, Cham: 89-114. ISBN 978-3-031-00811-5.
2. **Kumar Sudhir**, Divya Goel, Neeraj & Vineet Kumar Maurya. Proteins Involved in Colorectal Cancer: Identification Strategies and Possible Roles. Colon Cancer Diagnosis and Therapy edited by G. P. Nagaraju et al. (eds.). (2021) Springer: 179-194. ISBN 978-3-030-63369-1.
3. Raj I, **Kumar Sudhir**, Mazumder M & Gourinath S. Structural biology of *de novo* cysteine biosynthetic pathway enzymes. In Nozaki, T. and Bhattacharya, A. (eds.) Amebiasis: Biology and Pathogenesis of Entamoeba. (2015) 1st Edition Springer Japan. pp 373-391, ISBN 978-4-431-55200-0