



**Dr. Arun Sharma,**

Scientist F

Head, Protein Biochemistry and Structural Biology Lab,  
National Institute of Malaria Research (ICMR)  
New Delhi-110077 INDIA

Post Doc, University of California, Irvine USA, 1988;  
Ph.D, Kurukshetra University, Kurukshetra, India, 1983

## Research Interests

- **Parasite Biology: Drug Targets**
  - **Proteases**
  - **Kinases**
  - **Transferases**
  
- **Vector Biology**
  - **Proteomics**
  - **NOS physiology**

## LIST OF IMPORTANT PUBLICATIONS (Last 10 years)

1. Arun Sharma, Alex Eapen, Sarala K. Subbarao (2004) Parasite killing in *Plasmodium vivax* malaria by nitric oxide: implication of aspartic protease inhibition. *Journal of Biochemistry* 136, 329-334.
2. Arun Sharma and Sukla Biswas (2005) Stage specific cytosolic protein kinase C-like activity in human malarial parasite *Plasmodium falciparum* Ind. *J of Biochem. Biophys*, 42, 145-151.
3. Arun Sharma, Alex Eapen, and Sarala K. Subbarao (2005) Purification and Characterization of a hemoglobin degrading aspartic protease from the malarial parasite *Plasmodium vivax*. *Journal of Biochemistry* 138, 71-78.
4. Arun Sharma (2007) Malarial Protease Inhibitors: Potential New Chemotherapeutic Agents. *Current Opinion in Investigational Drugs*, 8 (8), 162-172.
5. Rajnikant Dixit, Arun Sharma, Millind S. Patole and Yogesh S, Shouche (2008) Molecular and Phylogenetic analysis of a novel salivary defensin cDNA from malaria vector *Anopheles stephensi*. *Acta Tropica*, 106, 75-79.
6. Arun Sharma, K. Raghavendra, T. Adak and A. P. Dash (2008) Determination of nitric oxide (NO) metabolites, nitrate and nitrite, in *Anopheles culicifacies* mosquito mid-gut and hemolymph by anion exchange high-performance liquid chromatography: plausible mechanism of refractoriness. *Malaria Journal*, 7:71
7. Dixit Rk, Sharma A and Shouche YS (2008). Identification and characterization of a novel salivary cecropin cDNA from malaria vector *A. stephensi*. *The ICFAI Journal of Biotechnology*, 2: 7-12.
8. Rajnikant Dixit, Arun Sharma, Devendra T Mourya, Raghavendra K, Millind S Patole, Yogesh S Shouche (2008) Salivary Gland transcriptome analysis during *Plasmodium* infection in malaria vector *Anopheles stephensi* (Accepted: *International Journal of Infectious Diseases* 2008)

9. Antimalarial evaluation of copper (II) nanohybrid solids: inhibition of plasmepsin II, a hemoglobin-degrading malarial aspartic protease from *P. falciparum*. Subash Chandra Mohapatra, Hemandra Kumar Tiwari, Manisha Singla, Brijesh Rathi, Arun Sharma, Kuldeep Mahiya, Mukesh Kumar, Saket Sinha, Shyam Singh Chauhan. *J. Biol. Inorg. Chem*, 2010.
10. High proportion of mixed-species Plasmodium infections in India revealed by PCR diagnostic assay. Bhavna Gupta , Purva Gupta , Arun Sharma, Vinita Singh, AP Dash and Aparup Das. *Trop Med Int Health*, 2010.
11. Vijay S, Rawat M, Adak T, Dixit R, Nanda N, Sharma A et al. (2011) Parasite Killing in Malaria Non-Vector Mosquito *Anopheles culicifacies* Species B: Implication of Nitric Oxide Synthase Upregulation. *PLoS ONE* 6(4): e18400. doi:10.1371/journal.pone.0018400.
12. Manmeet Rawat, Sonam Vijay, Yash Gupta, Rajnikant Dixit, P.K. Tiwari, Arun Sharma (2011). Sequence homology and structural analysis of plasmepsin 4 isolated from Indian *Plasmodium vivax* isolates. *Inf Gen Evol*, doi:10.1016/j.meegid.2011.02.024.
13. Hemandra Kumar Tiwari, Sanidhya Upadhyay, Raj Kumar Upadhyay, Manmeet Rawat and Arun Sharma (2011). Chalcones induced inhibition of plasmepsin II, a hemoglobin-degrading malarial aspartic protease from *Plasmodium falciparum*. *Journal of Pharmacy Research* 4(4), 1253-1258.
14. Rajnikant Dixit, Manmeet Rawat, Sanjeev Kumar, Kailash C. Pandey , T. Adak , Arun Sharma (2011), Salivary gland transcriptome analysis in response to sugar feeding in malaria vector *Anopheles stephensi*. *Journal of Insect Physiology* doi:10.1016/j.jinsphys.2011.07.007.
15. Rawat M, Vijay S, Gupta Y, Tiwari PK, Sharma A (2013) Imperfect Duplicate Insertions Type of Mutations in Plasmepsin V Modulates Binding Properties of PEXEL Motifs of Export Proteins in Indian *Plasmodium vivax*. *PLoS ONE* 8(3): e60077. doi:10.1371/journal.pone.0060077.
16. Sonam Vijay, Manmeet Rawat, Arun Sharma (2014). Mass Spectrometry Based Proteomic Analysis of Salivary Glands of Urban Malaria Vector *Anopheles stephensi*. *BioMed Research International*. Volume 2014, Article ID 686319, 12 pages <http://dx.doi.org/10.1155/2014/686319>.
17. Vijay S, Rawal R, Kadian K, Raghvendra K, Sharma A (2015). Annotated Differentially Expressed Salivary Proteins of Susceptible and Insecticide-Resistant Mosquitoes of *Anopheles stephensi* Plos One, 10(3): e0119666, doi:10.1371/journal.pone.0119666.
18. Rawal R, Vijay S, Kadian K, Singh J, Pande V, Sharma A (2016) Towards a Proteomic Catalogue and Differential Annotation of Salivary Gland Proteins in Blood Fed Malaria Vector *Anopheles culicifacies* by Mass Spectrometry. *PLoS ONE* 11(9): e0161870. doi:10.1371/journal.pone.0161870

#### LAB MEMBERS:

- Mr. Bhanu Arya  
(Technical Officer)
- Dr. Sonam Vijay (Ph.D, Post Doc)  
(Research Associate)

- Dr. Yash Gupta  
(SERB-PDF)

**Ph.D students**

- Ms. Kavita Kadian
- Ms. Ritu Rawal
- Mr. Jagbir Singh
  
- Mrs. Poonam Gupta  
(Technical Assistant)
  
- Mr. Alakh Deo Prasad  
(Insect Collector)
  
- Mr. Ramdas  
(Service Attendant)