


Resume

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Academic Qualification: M.Sc.; Ph.D. Life Sciences; **Total Experience: 21 Years**

Research specialization: Host-parasite Interaction & Vector Competence; Molecular & Functional Genomics

Aim: Our laboratory, founded in 2010 with basic molecular biology on Indian Anopheline malarial vectors. We work on many exciting projects to decode and understand that how the sex-specific behavioral biology of mosquito feeding, mating, breeding, and immunity affecting vectorial competency and malaria transmission. Ultimately, we amid to formulate new tools to control malaria and help improve the lives. Progressive with several fundamental discoveries, we continue to our journey and keep on learning more about what we do, and how we work every day to promote positive change.

Objectives: We are focused to generate a translatable scientific flow of knowledge from Lab-to-field and currently engaged

- To decode and understand sex and tissue-specific molecular complexity of mosquito host-seeking, blood-feeding, and mating behavioral physiology
- To find and select key molecular targets essential for *Plasmodium* development/survival inside the mosquito host
- To establish the molecular and functional correlation of mosquito behavioral biology and *Plasmodium* transmission dynamics

Publications: Article Published: 32; Book Chapter: 02;

Research Supervision

Postdoctoral Fellow: 03;
Ph. D. students: 02 (Completed/Awarded);
04 (Submitting soon)
Other Project Staff trained (SRF, JRF, and SLA):05
Master/Graduate Students (completed dissertation): 14

Conference/Seminar/Presentations: >25;

Invited/Keynote speaker: >12

Extramural Project status: 09 (6 completed (PI); 3 ongoing)

Latest Publications (Last 10 Years/Corresponding author):

S.N	Article(Author/Title)	Journal & Year of publication
1.	Chauhan C, De TD, Kumari S, Rani J, Sharma P, Tevatiya S, Pandey KC, Pande V, Dixit R. Hemocyte-specific FREP13 abrogates the exogenous bacterial population in the hemolymph and promotes midgut endosymbionts in <i>Anopheles stephensi</i> .	<i>Immunol Cell Biol.</i> (2020); doi: 10.1111/imcb.12374
2.	Sharma P, Rani J, Chauhan C, Kumari S, Tevatiya S, Das De T, Savargaonkar D, Pandey KC, Dixit R. Altered Gut Microbiota and Immunity Defines <i>Plasmodium vivax</i> Survival in <i>Anopheles stephensi</i> . <i>Front Immunol.</i> 2020;11:609. .	<i>Frontier in Immunology</i> (2020);11:609.
3.	Das De T, Sharma P, Thomas T, Singla D, Tevatiya S, Kumari S, Chauhan C, Rani J, Srivastava V, Kaur R, Pandey KC, Dixit R* . A synergistic transcriptional regulation of olfactory genes drives blood feeding associated complex behavioral responses in the mosquito <i>An. culicifacies</i> .	<i>Frontier In Physiology</i> (2018);23; 9:577
4.	Das De T, Sharma P, Thomas T, Singla D, Tevatiya S, Kumari S, Chauhan C, Rani J, Srivastava V, Kaur R, Pandey KC, Dixit R* . Interorgan Molecular Communication Strategies of "Local" and "Systemic" Innate Immune Responses in Mosquito <i>Anopheles stephensi</i>	<i>Frontier in Immunology</i> (2018); 20;9:148
5.	Das De T, Hasija Y, Dixit R* (2018). Transcriptional responses of attractin gene in the mosquito <i>Anopheles culicifacies</i> : A synergistic neuro-olfactory regulation.	<i>J. Vector Borne Disease</i> (2018)
6.	Das De T, Sharma P, Rawal C, Kumari S, Tavetiya S, Yadav J, Hasija Y, Dixit R* . Sex specific molecular responses of quick-to-court protein in Indian malarial vector <i>Anopheles culicifacies</i> : conflict of mating versus blood feeding behaviour.	Heliyon. 2017 Jul 20;3(7):e00361 (Cell Press)
7.	Thomas T, De TD, Sharma P, Lata S, Saraswat P, Pandey KC, Dixit R* (2016). Hemocytome: Deep sequencing analysis of mosquito blood cells in Indian malarial vector <i>Anopheles stephensi</i> .	<i>Gene</i> (2016); 585(2):177-90
8.	Sharma P, Mishra A, De TD, Thomas T, Verma S, Vandana K, Lata S, Singh N, Pandey KC, Valecha N, Dixit R* (2015). Deep sequencing revealed molecular signature of horizontal gene transfer of plant like transcripts in mosquito <i>A. culicifacies</i> : an evolutionary puzzle.	<i>F1000Research</i> (2015)
9.	Sharma P, Sharma S, Mishra A, De TD, Thomas T, Lata S, Singh N, Pandey KC, Valecha N, Dixit R* (2015). Unraveling dual feeding associated molecular complexity of salivary glands in the mosquito <i>A. culicifacies</i> .	<i>Biology Open</i> (2015); 4(8):1002-15
10.	Sharma P, Sharma S, Maurya RK, De TD, Thomas T, Lata S, Singh N, Pandey KC, Valecha N, Dixit R* (2014). Salivary glands harbor more diverse microbial communities than gut in <i>Anopheles culicifacies</i> .	<i>Parasite & Vectors</i> , 2014; 20;7(1):235
11.	Dixit R* ,Rawat M, Kumar S, Pandey KC, Adak T, Sharma A (2011). Salivary gland transcriptome analysis in response to sugar feeding in malaria vector <i>A. stephensi</i>	<i>J. Insect Physio</i> , 2011; 57, 1399-406
	Dixit R* , Patole MS, Shouche YS (2011). Identification of putative innate immune related genes from a cell line of the mosquito <i>Aedes albopictus</i> following bacterial challenge.	<i>Innate Immunity</i> . 2011 Feb;17(1):106-17

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(Rajnikant Dixit)

Further Reference: <https://scholar.google.com/citations?user=uHsleZMAAAAJ&hl=en>

https://www.researchgate.net/profile/Rajnikant_Dixit