

Kamlesh Kumar Yadav, Ph.D.

B-12, Sara Park Apartment
N2-Cidco, Behind Soham Hyundai
Aurangabad-431001, Maharashtra, India

Mobile: +918399837463 / +917002137279
Email: kamalbiotech.yadav@gmail.com,
kamal_200585@yahoo.com

SUMMARY

More than 8 years research experience in Microbial Biotechnology with a specialized skills in vector borne disease management, mycorrhizal fungi and rhizobacteria, human & plant fungal pathogens, microbial and black soldier fly larvae based bio-waste degradation etc.

EDUCATION

Doctor of Philosophy (Biotechnology) — 2017

Jiwaji University, Gwalior, India

Research Laboratory:

Defence Research Laboratory (DRDO)
Ministry of Defence, Government of India
Tezpur, Assam, India

Thesis: *Study of midgut bacteria fauna in Aedes mosquito: vector of Dengue and Chikungunya disease*

Master of Science (Biotechnology) — 2009

Jiwaji University, Gwalior, India

Dissertation Research:

Environmental Microbiology Div.,
Institute of Toxicology Research (CSIR-IITR), Lucknow, India

Thesis: *Isolation & screening of ligninolytic bacteria for biobleaching of kraft pulp from pulp & paper industry*

Bachelor of Science (Hons.) (Biotechnology) — 2007

Chaudhary Charan Singh University, Meerut, India

PROFESSIONAL EXPERIENCE

- GBIT Ltd. (Mahyco Group), Jalna, Maharashtra — *Research Scientist*** **Dec 2017 - Present**
 - Population suppression of *Aedes aegypti* through transgenic mosquito in collaboration with Oxitec, UK
 - Bio-waste management through Black soldier fly (*Hermetia illucens*)
- Noida International University, Uttar Pradesh — *Assistant Professor*** **Sep 2017 - Dec 2017**
 - Taught Graduate and Post graduate students of SOS Biotechnology and Microbiology Deptt.
- Defence Research Laboratory (DRDO), Min. of Defence, Tezpur, Assam — *Junior / Senior Research Fellow, Biotechnology division*** **Dec 2014 - June 2017**

Worked on DRL-DRDO supported project

 - Midgut microbiota for mosquito borne disease management (including paratransgenesis)
 - SCAR based rapid detection techniques development for identification of human and plant fungal pathogens in Northeast India (Himalayan regions)
 - Isolation and screening of cellulose degrading bacteria – for Bio-toilet

4. **Tezpur University, Tezpur, Assam — *Project Fellow, MBBT Dept.*** **Nov 2012 - Oct 2014**
Worked on DRDO sponsored project-
 - *Screening and isolation of bioactive compounds from medicinal plants traditionally used against malaria from Arunachal Pradesh*
5. **Defence Research & Development Establishment (DRDO), Gwalior — *Resource Generating Fellow, Vector Management Division*** **Feb 2011 - Sep 2012**
 - *Assist in microbial and molecular research work like, isolation and purification of bacteria from mosquito's midgut, DNA isolation, PCR amplification, DNA sequence analysis etc.*
 - *Literature survey, data entry and analysis etc.*
6. **Institute of Toxicology Research (CSIR), Lucknow — *Research Scholar, Environmental Microbiology Division*** **Jul 2010 – Jan 2011**
 - *Collection and physiochemical analysis of industrial effluents*
 - *Isolation and characterization of bacteria from industries effluents, soil from dumping sites etc.*
 - *Screening of ligninolytic bacteria for biobleaching of Kraft pulp and their plasmid profile study*

ACADEMIC AWARDS / FELLOWSHIP

- **Defence Research Laboratory (DRDO), Tezpur, Assam**
Senior Research Fellow — Dec 2016 to Jun 2017
Junior Research Fellow — Dec 2014 to Dec 2016
- **Tezpur University, Tezpur, Assam (DRL-DRDO sponsored project)**
Project Fellow — Nov 2012 to Oct 2014
- **Defence Research & Development Establishment (DRDO), Gwalior**
Resource Generating Fellow (RGF) — Feb 2011 to Sep 2012
- **Graduate Aptitude Test in Engineering (Score – 404) —** 2011
- **Graduate Aptitude Test in Engineering (Score – 327) —** 2010

TECHNICAL SKILLS

- **Microbiology:**
 Isolation and purification of microbes (bacteria and fungus) from insects, infected plants and humans, soil, sewage water, industrial effluents etc.
 Collection and management of mycorrhizal fungi and rhizobacteria
 Design, conduct, and interpretation of microbial characterization on the basis of morphology, biochemical and molecular (culture dependent and independent based - Metagenomics)
 Microscopy analysis of microbes- light, fluorescence and Scanning electron microscope.
- **Molecular biology:** Isolation of DNA, RNA and Plasmid, primer designing, PCR amplification, RT-PCR, Cloning, Colony PCR, DGGE, DNA Sequencing, Sequence analysis, MALDI-TOF, Southern blotting, Molecular marker- RAPD, RFLP, AFLP for DNA fingerprinting & polymorphism study etc.

- **Bio-molecule:** Protein extraction, purification, SDS & Gradient PAGE, 2D-gel electrophoresis, MALDI-TOF-MS, Western blotting, ELISA etc.

Extraction, purification and analysis of bio-compounds using various Chromatographic techniques (Paper, Thin layer, Column, HPLC) and spectroscopy techniques (Ultraviolet-visible and Fluorescence).

- **Insect biology:** Rearing and handling of mosquito (*Aedes*, *Anopheles* and *Culex*), cockroach, house fly and black soldier, rearing of genetic modified *Aedes aegypti* in BSL-II facility.
- **Field study:** Field collection of mosquito samples, population dynamic study of mosquitoes etc.
- **Computer knowledge:** MS Office (Word, Excel, and Power point), Adobe Photoshop, Irfanview, Imagej, Bio-diversity and statistical analysis software- Past, GraphPad Prism, SPSS, Molecular analysis software- NTSYS-pc, BioEdit, Chromas, DAMBE, EzTaxon server, MEGA, Gene Tool etc.

PROFESSIONAL ASSOCIATIONS

- Fellow of the Society of Medical Arthropodology (**FSOMA**)
- Fellow of the Society of Entomology and Zoology Research (**FSEZR**)
- Association of Microbiologist of India (Life Member)
- Indian Science Congress Association (Life Member)
- British Society for Parasitology (Life Member)
- National Academy of Vector Borne Disease (Life Member)
- Asian PGPR Society of Sustainable Agriculture (Life Member)

REVIEWER/ EDITORIAL BOARD MEMBER

- Infection, Genetics and Evolution (MEEGID) – Elsevier (reviewer)
- Geomicrobiology Journal – Taylor & Francis (reviewer)
- Journal of Asia-Pacific Entomology – Elsevier (reviewer)
- African Journal of Microbiology Research – Academic Journals (reviewer)
- International Journal of Tropical Disease & Health (editor and reviewer)
- Journal of Biotechnology and Immunology- eScientific publishers (editor and reviewer)
- EC Microbiology – ECronicon (ECMI) Journal (editor and reviewer)
- Acta Scientific Microbiology – Acta Scientific (editor and reviewer)

PUBLICATIONS

I. Editorial

1. **Yadav KK.** Microbial based vector-borne disease management – A future prospect. **EC Microbiol.** 2018; 14(9): 497-498.

II. Book Chapter

2. **Yadav KK, Patil PB.** Role of microbes in treatment of effluent of Pulp & Paper Industry. **Book-** Waste to Energy: Modern Prospects and Applications. **Springer Nature.** 2019 (Under process).

3. Patil PB, Yadav KK. FriendlyTM mosquitoes: a transgenic mosquito strain for *Aedes aegypti* L. vector population suppression – A Non-viable Insect Technique (NIT). **Book-** Genetically modified & other innovative vector control technologies: eco-bio-social considerations for safe application. **Springer**. 2019 (Under process).
4. Yadav KK, Chandel K, Bhagyawant SS, Vijay Veer. Midgut bacterial microbiota of important mosquito disease vectors and its role in control of parasite transmission. **Book-** Microbial Control of Vector-Borne Diseases, **CRC Press Taylor & Francis**. 2018; 245-299.

III. Paper Publications

5. Gandhi R, Yadav KK, Patil PB, Bihani P, Char B, Dasgupta SK, Zehr UB, Barwale SR. Molecular analysis of mitochondrial cytochrome oxidase I gene of *Aedes aegypti* L. mosquitoes **J Asia-Pac Entomol**. 2019 (Under review-JAPE_2019_321).
6. Yadav et al. Bio-insecticidal activity of aqueous extracts of *Clerodendron inerme* Gaertn. leaves against *Aedes aegypti* L. **J Arthropod Borne Dis**. 2019 (Under review).
7. Sharma S, Prasad RK, Chatterjee S, Sharma A, Vairale MG, Yadav KK. Characterization of *Bacillus* species with Keratinase and Cellulase properties isolated from feather dumping soil and cockroach gut. **Proc Natl Acad Sci (NASB)**. 2018; <https://doi.org/10.1007/s40011-018-1026-5>.
8. Yadav KK, Naglot A, Patil PB, Bhagyawant SS, Vijay Veer, Raju PS. Role of *Dietzia maris* bacteria in larval development of *Aedes albopictus* (Skuse) (Diptera: Culicidae). **J Entomol Zool Stud**. 2018; 6(2): 2937-2942.
9. Yadav KK, Datta S, Naglot A, Bora A, Hmuaka V, Bhagyawant S, Gogoi HK, Vijay Veer, Raju PS. Diversity of cultivable midgut microbiota at different stages of the Asian tiger mosquito, *Aedes albopictus* from Tezpur, India. **PLoS One**. 2016; 11(12): e0167409.
10. Yadav KK, Naglot A, Chandel K, Bhagyawant S, Bora A, Gogoi HK, Veer V, Raju PS. Molecular characterization of midgut bacteria of *Aedes albopictus* exhibiting swarming motility property. **Afr J Microbiol Res**. 2016; 10(25): 949-959.
11. Hazarika, SN, Gupta K, Shamin KNAM, Bhardwaj P, Boruah R, Yadav et al. One-pot facile green synthesis of biocidal silver nanoparticles. **Mater Res Express**. 2016; doi:10.1088/205-1591/3/7/075401.
12. Yadav KK, Bora A, Datta SN, Gogoi HK, Prasad GBKS, Veer V. Molecular characterization of midgut microbiota of *Aedes albopictus* and *Aedes aegypti* from Arunachal Pradesh, India. **Parasit Vectors**. 2015; 8: 641.
13. Yadav KK, Chandel K, Bora A, Veer V. Isolation and characterization of *Dietzia maris* from midgut of *Aedes albopictus*: a suitable candidate for paratransgenesis. **Int J Mosq Res**. 2015; 2(4): 07-12.
14. Naglot A, Goswami A, Rahman I, Shrimali DD, Yadav et al. Antagonistic potential of native *Trichoderma viride* strain against potent tea (*Camellia sinensis* (L.) O. Kuntze) fungal pathogens in northeast India. **Plant Pathol J**. 2015; 31:290-298.

15. **Yadav KK**, Chandel K, Purkayastha J, Veer V. 16S rRNA-RFLP based midgut bacterial diversity of *Aedes (Stegomyia) aegypti* (Diptera: Culicidae) from Gwalior region, India. **Int J Biotech Biosci.** 2014; 4(1): 70-74.

PRESENTATION IN CONFERENCES

1. **Yadav KK**, Veer Vijay, Raju PS (2018). *Dietzia maris* a midgut bacteria of *Ae. albopictus* Skuse affects the egg hatching and larval development. Current scenario and future trends in Biotechnology-Biofuturity, Bundelkhand University, Jhansi, India.
2. **Yadav KK**, Naglot A, Humuka V, Gogoi HK, Bhagyawant SS, Vijay Veer, Raju PS (2016). Molecular characterization of midgut microbiota of Asian tiger mosquito, *Aedes albopictus* from Tezpur and Jorhat. 57th Annual Conference of Association of Microbiologists of India & International Symposium, Gauhati University, Guwahati, India.
3. **Yadav KK**, Bora A, Tyagi V, Gogoi KH, Vijay Veer (2016). Isolation and characterization of midgut microbiota from blood and sugar fed *Ae. albopictus* collected from North-east India. 103rd Indian Science Congress, University of Mysore, India.
4. Tyagi V, Sharma AK, Yadav R, **Yadav KK**, Sukumaran D, Vijay Veer (2016). Laboratory evaluation of essential oils for their larvicidal activity against *Aedes aegypti*, vector of dengue and chikungunya. 103rd Indian Science Congress, University of Mysore, India.
5. **Yadav KK**, Bora A, Naglot A, Bhagyawant S, Vijay Veer (2015). *Dietzia maris* a midgut bacteria of *Ae. albopictus*: a suitable candidate for paratransgenesis. 56th Annual Conference of Association of Microbiologists of India & International Symposium, Jawaharlal Nehru University, New Delhi, India.
6. **Yadav KK**, Bora A, Vijay Veer (2014). Midgut microbiota studies of *Ae. albopictus* and *Ae. aegypti*: vector of dengue & chikungunya from Arunachal Pradesh, North-east India. Recent Advance in Biotechnological Research in North East India: Challenges and Prospects, Tezpur University, Tezpur (Assam), India.
7. **Yadav KK**, Raj A, Bora A, Vijay Veer (2014). Biobleaching of kraft pulp from pulp & paper industry using ligninolytic bacteria. The Recent Advance in Biodegradation of Human Waste, Defence Research Laboratory, Tezpur (Assam), India.
8. **Yadav KK**, Vijay Veer, Chatterjee S, Datta S (2013). Study on midgut bacterial diversity of *Aedes albopictus* (Diptera: Culicidae) using 16S rRNA-PCR-RFLP. International conference on Vector & Vector Borne Disease, Mohan Lal Sukhadia University, Udaypur, India.
9. **Yadav KK**, Purkayastha J, Vijay Veer, Namsa ND (2013). Identification of midgut bacteria isolated from wild caught *Aedes (Stegomyia) albopictus* (Diptera: Culicidae). 7th Conference of Medical Arthropodology, Defence Research Laboratory, Tezpur, India.
10. Hazarika SN, **Yadav KK**, Baruah I, Namsa ND (2013). Plants and traditional knowledge to control malaria: an Ethnobotanical investigation on tribal's of Arunachal Pradesh. 7th Conference of Medical Arthropodology, Defence Research Laboratory, Tezpur, India.

11. **Yadav KK**, Chandel K, Vijay Veer, Chatterjee S (2013). Comparative Study on the Midgut Bacterial of the Blood Fed & Sugar Fed *Aedes (Stegomyia) aegypti* (Diptera: Culicidae). 100th Centenary Session-Indian Science Congress, Calcutta University, Kolkata, India.
12. **Yadav KK**, Chandel K, Vijay Veer, Chatterjee S (2012). Midgut bacterial characterization of the blood fed and sugar fed *Ae. aegypti* (Diptera: Culicidae). Recent Development in Health, Hygiene and Environment-TEZCON, Defence Research Laboratory, Tezpur, India.

PARTICIPATION IN CEP/ WORKSHOP/ SEMINAR

1. **Continuing Education Program (2013)**. Recent advancement in characterization & diagnosis of emerging phytopathogens infecting major crops in North East India. Defence Research Laboratory, Tezpur, India.
2. **Workshop (2016)**. Use of statistical tools in biomedical research. Lokopriya Gopinath Bordoloi Regional Institute of Mental Health, Tezpur, India.
3. **Workshop (2012)**. Hands on training in DNA based techniques for teachers teaching undergraduate classes in Life sciences in rural areas of Maharashtra. Zoology, Govt. Vidarbha Institute of Science and Humanities, Amaravati, Maharashtra, India.
4. **Workshop (2008)**. Nanotechnology on Protein Estimation. Deptt. of Biochemistry, G.R. Medical College, Gwalior, India.
5. **Seminar (2008)**. Recent trends in Biotechnology. Institute for Allied Science & Computer Application, Gwalior, India.

HONORS & ACHIEVEMENTS

1. 2019, received **Certificate of Reviewing** from Journal of Asia-Pacific Entomology – Elsevier
2. 2017, received **Certificate of Excellence in Reviewing** by - SCIENCEDOMAIN International
3. 2016, received **Certificate of Reviewing** from Infection, Genetics and Evolution – Elsevier
4. 2013, Third best prize winner in paper presentation, 7th Conference of Medical Arthropodology, DRL, Tezpur (Assam), India
5. 2016, Won gold medal in cricket tournament organized by DRL, Tezpur (Assam), India
6. 2016, Won gold medal in Tag of war tournament organized by DRL, Tezpur (Assam), India
7. 2015, Won silver medal in cricket tournament organized by DRL, Tezpur (Assam), India
8. 2015, Won bronze medal in Badminton Men's single tournament organized by DRL, Tezpur, India
9. 2015, Quiz master in quiz competition in Hindi Sanghoshthi at DRL, Tezpur (Assam), India

(Dr. Kamlesh K. Yadav)