

DR. SHIVAJI KASHINATH, JADHAV, Ph.D.

(NIRRH-ICMR)

(Scientist-C)

National Institute of Malaria Research (NIMR)

Ministry of Health and Family welfare, Govt of India,

Indian Council of Medical Research, (ICMR)

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Address for Correspondence

Dr Shivaji K Jadhav

S/O Shri. Kashinath V. Jadhav

Hebballi Agasi, Ganapati Gudi Oni, Vidyaranya high School and

P U College Road, Dharwad, Karnatak, India -580001

EDUCATION

Ph.D – Biochemistry: National Institute for Research in Reproductive Health, [NIRRH] Indian Council of Medical Research (ICMR), Mumbai, India- Degree Awarded by **University of Mumbai**: March 2012.

M.Sc – Biotechnology: Microbiology and Biotechnology, Karnataka University, India - July 2003. (72.88 %)

B.Sc. – Microbiology: Department Karnataka Science College /Karnataka University, India - May 2001. (77.66%)

CAREER GOAL:

To conduct innovative and translational infectious disease research focuses on host-pathogen interactions and immune monitoring leading to therapeutic intervention.

Broad Area of Interest: Molecular Virology and Diagnostics, Immunology, Molecular biology and pathogenesis, of HIV, HIV & TB Co Infections, (MDR /XDR TB) Mucosal transmission and genetic diversity Host pathogen interaction, Malaria transmission, Plasmodium Vivax and falciparum genomics and vector biology.

EXPERIENCE

Currently Working as Scientist- C / Site Manager at National Institute of Malaria Research (NIMR), ICMR, Field Unit, Panaji, Goa, India (30.12.2014- Till date) in NIH-ICMR Funded Research Project on “Malaria Evolution in South Asia [MESA]

Specific Objectives

- Overall Management MESA Staff for routine functioning of the laboratory
- Monitoring Mosquito Collection from areas prone to malaria disease and their identification based on morphological characterization.
- Dissection of mosquitoes (malaria causing Anopheles) to separate the Head (salivary glands) and Abdomen (midgut) followed by DNA extraction
- PCR Amplification of Plasmodium species using Universal primers
- Confirmation of Plasmodium Vivax and Falciparum using species specific primers and Sequencing.
- Rearing and Culturing of Anopheles stephensi in control conditions using Percivals.
- Confirmation of Vectors Anopheles Stephensi and An Subpictus by amplification of ITS 2 Region using ITS2 Specific Primers
- Analysis of Vector sequences for homology pairing, Blast and Dendrogram with Phylogenetic trees
- Establishment of Insectory Laboratory for Vector Competency for infection studies
- Biosafety Level handling and culturing of Plasmodium strains and infectivity Assays

SCIENTIST: PRINCIPAL INVESTIGATOR (August 2012- October 2014)

(KLE UNIVERSITY, BASIC SCIENCE RESEARCH CENTER, BEGAUM KARNATAKA)

- Project Initiated : Drug-resistant HIV-1 variants in the semen of men receiving antiretroviral therapy with Acute Sexually Transmitted infections (STIs)
- Studies on Role of IRS1 / IRS2 gene in PCOS women's with and without Insulin resistance
- Project on Prevalence of ATP7B Gene Mutations in Indian Patients with Wilson Disease
- PCR Detection of Brucellosis with IS 711 specific gene amplification
- Establishing facility / infrastructure for Bio safety level laboratory to work on infectious agents
- Extensively involved in Providing Hand training in molecular biology research project works for various Basic Biotechnology/ Microbiology / Medical/Dental/Pharmacy students.
- Molecular biology research focuses on HIV/AIDS or infectious diseases.
- Actively involved in organizing workshops / Seminars/Symposiums on Molecular biology, Virology Immunology and Microbiology.
- Providing training to Research officers / Research Assistants for various techniques in molecular biology.
- **Recognized Guide (Interdisciplinary Sciences, KLE University Belgaum, and also Co-Guide for various dissertation projects for degree (MD/MDS/PhD /Masters Programs).**
- Funding: Proposal for various funding agencies, DBT / ICMR / CSIR / VGST Grants.

Initiated Research Projects as Principal Investigator

Project: Drug-resistant HIV-1 variants in the semen of men receiving antiretroviral therapy with acute sexually Transmitted infections

- Genotypic Characterization of HIV-1 RT/Protease genes in the anti-retroviral drug-naïve, drug-exposed in people living with HIV/AIDS with Sexually transmitted infections.
- The study proposes to characterize HIV Drug resistant variants in blood and compare that with the drug resistant variants from semen derived viruses of the same infected individuals.
- Identification and screening of Novel drug resistant mutations in Protease and RT genes from HIV1C from Indian Origin and interpretation of data using HIV drug resistance/Stanford HIV drug resistance database.

Project: Detection of ATP7B Gene Mutations in Indian Patients with Wilson Disease

Wilson disease (WD) is an Autosomal recessive disorder that results from the body's inability to excrete excess copper.

Specific Objectives:

- Prevalence of ATP7B Gene Mutations in Indian Patients with Wilson Disease
- Screening Novel mutations of the ATP7B gene
- Characterisation of ATP7B mutation spectrum in Wilson disease patients

Project: PCR Diagnosis and detection of Brucellosis from north Indian patients

Specific Objectives:

- Identification and confirmation of Brucellosis
- PCR Detection of Brucellosis with IS 711 specific gene amplification
- Sequencing to confirm B strain and its clinical correlations.

Expertise: Successfully Conducted Workshops/Seminars/Symposiums at Basic Science Research Centre (BSRC) KLE University, Belgaum -590010

- ***Polymerase Chain Reaction Workshop*** (Skill Development and Applications) on 24th January, 2013
- Good Laboratory Practices and Biosafety levels in biomedical laboratories on 7th June, 2013,
- ***Research Opportunities in Molecular Biology and Microbiology (Future Directions)*** on 7th Sep, 2013
- ***PCR Approaches in Molecular Diagnostics and Research*** on 7th October 2013
- Delivered a Talk on Present Scenario of ***NABL Accreditation in India*** at UDEHO Workshop on “NABL Accreditations for Research Centers” held on 22nd November, 2013
- ***Basic Training in laboratory Techniques*** for UG and PG Students on from 18th Nov- 6th Dec 2013,
- Basic Training in laboratory Techniques for UG and PG Students on from 3rd Feb-19th Feb 2013,
- ***Advanced Training in laboratory Techniques*** for UG and PG Students on from 7th April -13th April 2014,
- Workshop conducted on ***Molecular Cloning and Applications*** on 23rd June 2014.
- ***Good Laboratory Practices and Laboratory Safety*** on 19th August 2014,

Teaching:

- Under graduates and Post graduates in Microbiology and Biotechnology
- Course Work syllabus for **PhD Research Scholars** and training in molecular biology
- Invited lectures and practical demonstrations for microbiology and Biotechnology students

FUNDING (SUBMITTED)

Project 1: Drug-resistant HIV-1 variants in the semen of men receiving antiretroviral therapy with acute sexually Transmitted infections- **[ICMR –DBT] Full project: Under review**

Project 2: Study of HIV-1 Drug resistant variants in blood and semen of men receiving antiretroviral therapy [DST-SERB – Scheme for Young Scientists” (DST) / DAE / BRNS Young Scientist Scheme / VGST Seed Money for young Scientist Awards] **under review**

INTERNATIONAL EXPERIENCE

FOGARTY SHORT-TERM INTERNATIONAL HIV/AIDS TRAINING PROGRAMME (ATRIP) AWARD

I have Completed Fogarty Short-term International HIV/AIDS Training Programme (ATRIP) at Miriam/Brown University USA from November 2008 to January 2009 at Brown University Rhode Island, Boston USA, I have worked as Research fellow in HIV / AIDS Clinical Virology under the guidance of **Dr. Deborah.J. Anderson**, at Boston Medical School, and I have also worked at **Dr.Manish Sagar**, Harvard University, Dr Kenneth. H. Mayer Brown/Miriam Fenway Health Clinic Boston, USA. (Fogarty Mentor)

DOCTORAL RESEARCH: Biochemistry and Virology Unit, National Institute for Research in Reproductive Health, (NIRRH) Indian Council of Medical Research, Mumbai, India, (November 2005 - February 2012). Guide: Dr. Atmaram H Bandivdekar (Deputy Director)

PhD Research Project: “To Study of Human immune deficiency virus (HIV) Viral Variants in Blood and Urogenital Secretions and their Association with Pathogenesis of HIV” [ICMR-DBT Funded]

EXPERTISE

- Biosafety Level 2 (BSL2) conditions with BL3 practices and procedures to safely handle live HIV-1 and address issues of pathogenesis and dual infection.
- Independently cloned and characterized HIV-1 Isolated from semen derived viruses and deposited the sequences in NCBI Database.
- Extensive experience in molecular biology and cell culture including cloning, sequencing, PCR, RT-PCR, Southern/Western blotting, ELISA, immunoprecipitation, transfection and microbial bioassays.

PROJECTS COMPLETED DURING DOCTORAL STUDIES

- **Characterization of Human Immunodeficiency Virus (HIV1 C) Variants in Peripheral Blood Mononuclear Cells (PBMCs) and Spermatozoa**

The presence of distinct viral variants in different cells and secretions of the same individuals influence HIV affinity to different host cells and therefore transmission as well as HIV pathogenesis and therapy. The virus associated with seminal cells including sperm and leukocytes is also been reported to be the risk factor for sexual transmission of HIV. Characterization of C2-V3 region of HIV1C env gene by HMA and sequencing demonstrates presence of distinct variants in PBMCs, sperm of the same individual. Translated amino acid sequences of HIV variants in the PBMCs and spermatozoa of the HIV infected males were found to be distinctly different.

The sequence analysis of these variants showed different numbers of N-linked glycosylation (NLG) sites. Although the presence of viral load was observed in seminal plasma, the sperm and leukocytes samples of some of these individuals did not show infectivity, in-vitro. Moreover, infectivity and number of NLG sites did not show association with viral load in blood and seminal plasma and CD4 count. The study demonstrates the presence of distinct viral variants in the sperm, seminal leukocytes and PBMCs of the same individuals having differential infectivity and NLG sites which may influence HIV affinity to host cells and neutralizing antibodies and therefore the sexual transmission and pathogenesis of HIV as well as progression to AIDS.

- **The potential risk of HIV-1 infection following human bite although epidemiologically insignificant, but it is biologically possible.**

There are anecdotal reports of HIV transmission by human bites particularly if saliva is mixed with blood. The oral tissues support HIV replication and may serve as a previously unrecognized HIV reservoir. The HIV infected individuals have more viruses in blood than saliva, possibly due to the potent HIV-inhibitory properties of saliva. The case presented here is of a primary HIV infections following a human bite where in the saliva was not blood stained but it got smeared on a raw nail bed of a recipient. The blood and saliva of the source and blood of the recipient showed a detectable viral load with 91% sequence homology of C2-V3 region of HIV gp120 between the two individuals. The recipient did not receive PEP [post exposure prophylaxis] as his family physician was unaware of salivary transmission. The family physician should have taken PEP decision after proper evaluation of the severe and bleeding bite .Hence it is necessary to treat the HIV infected human bites with post exposure prophylaxis.

- **Association of human Mannose Receptor in Sexual Transmission of Human immuno deficiency Virus (HIV) in Serodiscordant Couples**

The HIV binds specifically to human Mannose Receptor (hMR) on vaginal epithelial cells which are devoid of conventional CD4 receptor. HIV binding to hMR on vaginal epithelial cells induces the production of Matrix Metalloproteinase 9 (MMP9) leading to degradation of extracellular matrix which may increases the risk of HIV entry into vaginal epithelial cells and further transmission into distal cells. Immunofluorescent localization of hMR on vaginal epithelial cells of the seronegative females from general population as a control group and seronegative females from Serodiscordant couples. The PCR amplification of DNA from PBMCs of the serodiscordant females for CCR5 gene flanking the CCR5-Δ32 region and PCR amplification and sequencing of C2-V3 region of HIV variants in PBMCs and sperm of the infected male partners of the Serodiscordant couples.

Presence of hMR on 0-11 % of the vaginal epithelial cells of seronegative females (n=39) from serodiscordant couples and 90-95% that of control group of females (n=52). Viral variation in PBMCs and sperm of serodiscordant males was almost similar to that of infected males from concordant couples. Presence of hMR in lower number of vaginal epithelial cells of Serodiscordant females prevented binding and HIV entry into these cells and therefore prevented sexual transmission of HIV. Expression of hMR in lower number of vaginal epithelial cells prevented sexual transmission of HIV from infected male to their female sexual partner and therefore remained Serodiscordant

FELLOWSHIPS/AWARDS

- **Senior Research Fellowship: (SRF)** Indian Council of Medical Research, ICMR, New Delhi, India. 2010-2012
- **Senior Research Fellowship:** ICMR-DBT Project on Collaborative Efforts on HIV/AIDS ICMR, India. 2007- 2010
- **Junior Research Fellowship:** Department of Biotechnology Project Fellowship, NIRRH, ICMR, India. 2005 -2007

YOUNG SCIENTIST / GLOBAL HEALTH TRAVEL AWARDS / INTERNATIONAL SCHOLARSHIPS

- **International Global Health Travel Award** to participate and present work at Keystone Symposium on The Modes of Action on Adjuvants (S1) held from October 8-13, 2014 **Seattle Washington, USA.**
- International Global Health Travel Award to participate and present work at Keystone Symposium on **Advancing Vaccines in the Genomics Era** (T1) from October 31-Nov 4, 2013 **Rio de Janeiro, Brazil,**
- International Scholarship to participate in The 20th International HIV Dynamics & Evolution conference from May 8-11, 2013, **Utrecht University, Netherlands.**
- International Global Health Travel Award from Bill and Melinda Gates foundation to Participate & present poster in the Keystone Symposium on **HIV Vaccine(X5)** Mar 21 - Mar 26, 2012. **Keystone, Colorado, USA**
- International Scholarship Award to participate and present poster in **International AIDS Vaccine** 2010 Conference, from 28 September 01 October 2010, **Georgia, Atlanta, USA.**
- International Scholarship Award to participate in International Conference on Microbicides (M2010) Building Bridges in HIV Prevention” held in **Pittsburgh, Pennsylvania, USA** from May 22-25, 2010.
- Travel Grant Award to participate in International Centre for genetic Engineering and Biotechnology Meeting ICgeb-IUBMB Workshop on “**Human RNA Viruses**” from February 10-12 , 2010 New-Delhi
- Conference Scholarship to participate and present poster in Second Annual Science Symposium on HIV/AIDS 28th to 29th August 2009 Organized by YRG Centre for AIDS Research and Education,(YRGCARE) Chennai.
- **Second Best Poster Award** in “**HIV Congress 2008**” jointly organized by International AIDS Society (IAS), ASHM, AIDS society of India and Infectious diseases society of India from 21st - 23rd March 2008 The award presented by Bedford Research Foundation, Bedford, and International Health Organization Boston, USA.
- Global Health Travel Scholarship Award from Bill & Melinda Gates foundation to participate in International conference on “**Pathogenesis and Control of Emerging Infections and Drug Resistant Organisms**” (S4) organized by Keystone Symposia from 22nd to 27th, October, 2008, **Bangkok, Thailand.**
- International Scholarship Award to participate in International conference on “**MIROBICIDES 2008** “Striving towards HIV Prevention” 23rd - 27th February 2008, New Delhi, India.
- International Scholarship Award to participate in 4th International AIDS Society (IAS) Conference on “HIV pathogenesis, prevention and treatment” July 22–25, 2007, Sydney, **Australia.**
- Scholarship for Biotech Industrial Training Programme (BITP) from Department of Biotechnology (DBT).

RESEARCH EXPERIENCE:
MOLECULAR VIROLOGY/ MOLECULAR BIOLOGY/ IMMUNOLOGY

- Isolation & handling of HIV from Infectious samples (blood/semen & genital secretions) Ficoll-Hypaque and Percoll gradient Separations method.
- Isolation of Proviral DNA from PBMCs and Extraction and Quantification of Proviral DNA, RNA from spermatozoa. , PCR Amplification of Gag Pol and Env genes and full-length HIV genome
- Screening of CCR5 and CXCR4 gene polymorphism in HIV serodiscordant couples.
- P24 Antigen ELISA Assay (Perkin Elmer, Zepotmetrix).
- DNA and, RNA, RT-PCR and Molecular Cloning.
- Bacterial culture, plasmid Isolation and preparation of competent cells
- Viral load Assay by Real Time PCR Cobas Taqman 48 (Roche), Biomeriux (NASBA)
- Automatic Nucleic acid extraction system (MagNa Pure Compact Nucleic Acid extraction system (Roche)
- CD4/ CD8 Count Flow cytometry by BD FACS Count system and Guava system
- HMA Sub typing using NIH AIDS Reference Reagent kits and sequencing.
- Immunological assays ELISA, Western Blotting, immuno-fluorescence, Karyotyping, FISH, Genetic Analysis RAPD, RFLP , Genetic Polymorphism, Next Generation Sequencing (NGS) / Ion Torrent Platforms
- Protocol Contributed **for Virtual Knowledge Repository Centre (VKRC):** Department of Biotechnology and Indian Council of Medical Research (ICMR) and National AIDS Research Institute (NARI), Pune. Initiated with the objectives to share and make available reagents, cell lines and assay protocols and technologies among the researchers in the field of HIV and AIDS.
- In-house methodology standardized for HIV1 C Viral load quantification from seminal plasma using modified protocol with MagNa Pure Compact Nucleic Acid Extraction & Isolation system (Roche).

COLLABORATIONS

- **Dr. Atmaram H Bandivdekar** : National Institute for Research In reproductive Health, ICMR Mumbai: HIV Genetic Diversity and HIV Viral Variations in blood and semen of HIV infected individuals.
- **Dr. Deborah Anderson:** Fogarty International Training at Boston University School of Medicine Boston, USA

EDITORIAL BOARD MEMBER

- Member of Editorial Board “HIV Advance Research and Development-open access
- Member of Editorial Board “ International Archives of Microbiology and Immunology”
<http://sciencefairopenlib.com/journals/microbiology/editorial-board/>
- Jacobs Journal Of HIV/AIDS,
- Science Publishing Group- International Journal of Microbiology and Biotechnology.
<http://www.jacobspublishers.com/index.php/journal-of-aids-hiv-editorial-board>

REVIEW EXPERIENCE: Adhoc-Reviewer for many Journals (2012-2015)

- Regularly assist in reviewing manuscripts received for publication by my mentor. International Journal of HIV/AIDS, Journal of HIV/AIDS Research and Palliative care. Journal of HIV/ AIDS Research & Therapy (JHRT) International Journal AIDS Research and Therapy. Global Journal of Infectious diseases.
- Reviewer for the text book on **Developmental and Molecular Biology** for Biotechnology courses work for Sikkim Manipal University (2014)
- Organized and planned tasks for team members and interacted with the senior editor to ensure a quick, seamless and efficient flow of editorial assignments.
- Supervised and coordinated and edited above twenty manuscripts and grant proposals submitted by Research Fellows from diverse research backgrounds.

INDUSTRIAL EXPERIENCE

TULIP DIAGNOSTICS (P) LTD. (Microxpress), Microbiology (Research and Development). Goa, India
ASSISTANT RESEARCH OFFICER: [September 2005 -October 2005]

Research Area:

- Research and Development in microbiology for formulation of dehydrated Media.
- Validation of New Dehydrated Media with Difco / Oxoid / Himedia etc.
- Research on Mycobacterium Tuberculosis and biochemical formulation to detect
- Mycobacterium Tuberculosis./formulation of culture media,
- Formulation and preparation of LJ medium for Mycobacterium tuberculosis (Mycocult).

INSTITUTE OF AGRI-BIOTECHNOLOGY, University of Agricultural Sciences (UAS) Dharwad, India,
RESEARCH ASSISTANT: [June 2005 - July 2005]

Project “Molecular characterization of Bt gene and cloning of novel Insecticidal (cry) genes”

- Plasmid isolation, Transformation,
- Isolation of RNA by Trizol method
- PCR, Electroporation, SDS -PAGE
- RT-PCR., Restriction digestion, cloning and Sequencing.

NATURAL REMEDIES (R&D) Centre Microbiology (Research & Development) Bangalore, India
SENIOR RESEARCH ASSISTANT: [December 2004 - March 2005]

- Microbiological analysis of extracts, raw materials, and finished products.
- Validation and Calibration, media and instruments.
- Maintenance of pure cultures – *Salmonella*, *E.coli*, *Klebsiella candida*, etc.
- Environmental testing, water analysis, air sampling, analysis.
- Documentation and Standard Operating Procedures (SOP's) etc.

PepsiCo India Holdings Private Limited, Bangalore: QC Executive Microbiology

Department of Biotechnology {DBT} Sponsored Biotechnology Industrial Training Programme (BITP) through
Biotech Consortium India Limited (BCIL) New Delhi. , (03.09.2003-01.03.2004)

Specific Areas of Training

- Quality control and Quality Assurance Tests,
- Bureau of Indian Standards (BIS) related Regulatory tests,
- Environmental testing, water analysis, air sampling, analysis.
- Documentation and Standard Operating Procedures (SOP's) etc.
- Physiochemical & Microbiological analysis.

MEETINGS & PRESENTATIONS:

ORAL PRESENTATIONS / INVITED TALKS

Shivaji K Jadhav “**Characterization of HIV variants in urogenital cells and secretions**” International Conference on Fundamental and Translational Research on HIV/AIDS: Global Perspectives held from 5-8, October 2008, Mumbai, India.

Shivaji K Jadhav “**Biosafety/Biohazard management in Infectious Diseases**” to M Sc students of Pharmaceutical Medicine Courses from Maharashtra University of Health Sciences/ Department of Infectious diseases, Seth G S Medical College and KEM Hospital held on 25.09.2009, Mumbai.

Shivaji K Jadhav “**Primary HIV Infection after a Human bite**” International Conference on Emerging Frontiers and Challenges in HIV/AIDS Research held from 5-8 February 2011, Mumbai, India.

A H Bandivdekar, **Shivaji K Jadhav**, Alaka Deshpande “**Characterization of Sperm Associated Viral Variants and their Association with Sexual Transmission of HIV**” **Tenth** International Congress on AIDS in Asia and the Pacific (ICAAP 10) from 26-30th August 2011, Bexco, Busan, Korea.

Shivaji K Jadhav “**Association of human Mannose Receptor in Sexual Transmission of Human Immunodeficiency Virus in Serodiscordant Couples**” at 5th National Conference of AIDS Society of India “ASICON” from 23rd -25th November 2012, Bangalore Karnataka, India.

Shivaji K Jadhav: Invited as A Chief Guest and delivered a talk on National Science Day on Science Career in India and future prospective at Rainbow Residential Public School, Ranebennur, Karnataka, on 28 February 2014.

Shivaji K Jadhav : Invited as A Chief Guest and delivered a talk on Career Opportunities in Molecular Biology and Biotechnology on Auspicious Biotechnology Day occasion in RL S College , KLE Society Belgaum, Karnataka, on 4th September 2014.

Shivaji K Jadhav: Invited as A Chief Guest to Inaugurate Function NPTEL Workshop and delivered a talk on **Career option for Engineers in Biotechnology** on National Science Day at SDM College of Engineering and Technology , Dharwad on 28 February 2015.

POSTER PRESENTATIONS

- The Modes of Action on Adjuvants (S1) Keystone Symposium held from October 8-13, 2014, **Seattle Washington, USA**
- Advancing Vaccines in the Genomics Era (T1) Keystone Symposium from October 31-Nov 4, 2013 held at **Rio de Janeiro, Brazil**,
- The 20th International HIV Dynamics & Evolution conference will be held May 8-11, 2013, **Utrecht University, Netherlands**.
- Keystone Symposium on HIV Vaccine (X5) held at the Keystone Resort Keystone, from Mar 21 - Mar 26, 2012. **Colorado, USA**
- International Conference on Frontiers in Reproductive Biotechnology and 21st Annual Meeting of The Indian society for the study of Reproductive and Fertility National Dairy Research Institute (NDRI), 9- 11- February 2011 Karnal, India
- **AIDS Vaccine 2010 Conference, 28 September to 1st October 2010, Georgia, Atlanta, USA**
- International conference on **MIROBICIDES: Building bridges in HIV Prevention Pittsburgh Pennsylvania, USA** from 22- 25 May 2010.
- International Conference on Reproductive Health and 20th Annual meeting of the Indian Society for the study of Reproduction and Fertility, February 8-10 2010.

- International Centre for genetic Engineering and Biotechnology (ICGEB) Meeting “ICGEB-IUBMB Workshop” on **Human RNA Viruses** New-Delhi (P-18)
- Indo-US Conference on Infectious Diseases and Novel Strategies for design and Development of drugs and vaccines” Tata Institute of Fundamental research (TIFR)
- Second Annual Science Symposium on **HIV/AIDS** YRG Centre for AIDS Research and Education, (**YRG CARE**) (Abstract- HS001) 28th to 29th August 2009 Chennai, India
- International Conference on Fundamental **and Translational Research on HIV/AIDS**: Global Perspectives, Mumbai India
- **HIV Congress 2008**” jointly organized by International AIDS Society (IAS), Australian Society Health and Medicine, AIDS society of India, and Infectious diseases society of India. (**Best Poster Second Prize**)

PARTICIPATIONS

- Participated in Seventh Sir Dorabji Tata Symposium Organized by Sir Dorabji Tata Centre for Research in Tropical Diseases in association with the Department of Microbiology & Cell Biology, Indian Institute of Science, Bangalore on HIV/AIDS Research Issues 10th -11th ,March 2006.
- Participated in Graduate Students Meet (GSM) organized by Advanced Centre for Treatment, Research & Education in Cancer (ACTREC) Mumbai, India on 23rd September 2006.
- Participated in workshop-symposium “AIDS IN INDIA 2007” jointly organized by Albert Einstein College of medicine (AECOM) AIDS International Training and Research programme (ATRIP) Centre for AIDS Research (CFAR), and JNCASR Bangalore from 9th to 13th July 2007.
- Demonstrated Practical aspects on Detection of HIV variants by Heteroduplex Mobility Assay (HMA) in DBT Sponsored Training Programme on “ Applications of Emerging Technologies for the Diagnosis of sexually Transmitted Infections” held in National Institute for Research in Reproductive Health, ICMR, Mumbai from 20thAug-7th September 2007.
- Attended International Society for Cell and Gene therapy of Cancer (ISCGT) conference 16th-18th November 2007 Mumbai, India
- Participated in International conference on **Microbicides, 2008** (Striving towards HIV Prevention) from 23 -27 February 2008 New Delhi, India.(Scholarship Award)
- Participated in OAR (Office of AIDS Research) Grantsmanship Workshop for Junior Level and New Investigators February 23, 2008 And Mentoring Meetings Held in Conjunction with the Microbicides 2008 Conference February 25–27, 2008
- Participated in the 64th Annual Conference Bombay Medical Congress from 15th -16th March 2008, Mumbai India.
- Participated in the workshop on “Genotyping Techniques in clinical Diagnostics” Sponsored by ICMR-DBT held from 28th April -14th May, 2008 at National Institute for Research in Reproductive Health, ICMR, Parel, Mumbai,
- Hands on practical Training on Genotyping techniques includes PCR, Real Time PCR, SSCP, SNP Detection and gene expression by Real time PCR, Fragment analysis techniques, Reverse Dot blot hybridization, Allele specific PCR, Cytogenetic techniques including FISH and Karyotyping, HLA Typing, Spoligotyping for TB/ MDR tuberculosis, HMA analysis, DNA Sequencing, etc
- Participated in UGC Sponsored National conference on Recent Advances in Biological Sciences organized by K C College from 19- 20 September 2008, Mumbai, India
- Awarded Global Health Travel Award from Bill & Melinda Gates foundation to participate in International conference on “**Pathogenesis and Control of Emerging Infections and Drug Resistant Organism**” (S4) organized by Keystone Symposia from Oct 22nd to 27th, 2008 Bangkok, Thailand.

- Participated in “**HIV Congress 2010**” jointly organized by International AIDS Society (IAS), ASHM, AIDS society of India and Infectious diseases society of India from 8-10 January, Mumbai.
- Participated in workshop on “**The Relevance of the Principles of GLP in Basic research**” organized by Department of Toxicology National Institute for Research in Reproductive Health, ICMR held from 28-29 January 2010.
- Attended Seminar on “Medical writing...Road to Excellence “Advanced Programme Collaborative seminar organized by Indian Drug Manufacturers Association (IDMA) and British Medical Journal (BMJ) on 24th October 2010, Mumbai India.
- Participated in symposium “Advances in Electron Microscopy in Virology Research and 3D Imaging: The Road Ahead” (ICMR 100 Years of service to the nation) centenary event from 20-21 October 2011, National Institute of Virology Indian Council of Medical Research, Pune, India
- Selected and participated in UGC-NRCBS Winter School workshop on “Plant viruses as tools in Biotechnology” at Madurai Kamraj University, Madurai, India, from November 1st November - 15th November, 2011.
- Participated in Graduate Students Meet (GSM) organized by Advanced Centre for Treatment, Research & Education in Cancer (ACTREC) Mumbai, India on 9th to 10th December 2011
- Participated in National seminar held on 25th August 2012, “**Current Trends in Diagnosis, Prevention and Management of HIV**” organized by Association of Physiology & Pharmacology India (APPI) and Jawaharlal Nehru Medical college, KLE University, Belgaum, Karnataka, India.
- Participated in Workshop- cum-Brain Storing Session on Right to Health and Creating New Cadre of Doctors for primary /Basic Health Care Jointly organized by Karnataka Health Systems Commission (KHSC) Govt of Karnataka and KLE University Campus, Belgaum, Karnataka on 19th January, 2013
- Participated in one Day National Seminar on Research Opportunities in Biofuels, Sponsored by Karnataka State Bio Fuel Development Board, Bangalore and Visvesvaraya Technological University (VTU) Belgaum, Karnataka on 9th February, 2013
- Participated in Suvarna JNMC CME “Clinical Forensic Medicine and Toxicology” (CME, 2013) organized by Department of Forensic Medicine and Toxicology Jawaharlal Nehru Medical College (JNMC) Belgaum, Karnataka on 23rd February 2013.

HANDS ON TRAINING AND WORKSHOPS

- Participated in OAR (**Office of AIDS Research**) **Grantsmanship Workshop for Junior Level and New Investigators** 23rd February, 2008 And Mentoring Meetings Held in Conjunction with the Microbicides 2008 Conference February 25–27, 2008.
- Participated in the workshop on “**Genotyping Techniques in clinical Diagnostics**” Sponsored by ICMR-DBT held from 28th April -14th May, 2008 at National Institute for Research in Reproductive Health, ICMR, Parel Mumbai,

[Hands on practical Training on Genotyping techniques includes PCR, Real Time PCR, SSCP, SNP Detection, Fragment analysis techniques, Reverse Dot blot hybridization, Allele specific PCR, Cytogenetic techniques including FISH and Karyotyping, HLA Typing, Spoligotyping for TB/ MDR tuberculosis, HMA analysis, DNA Sequencing]

- Participated in workshop on “**The Relevance of the Principles of GLP in Basic research**” organized by Department of Toxicology National Institute for Research in Reproductive Health, ICMR held from 28-29 January 2010.

- Participated in UGC-NRCBS Winter School workshop on “**Plant viruses as tools in Biotechnology**” at Madurai Kamraj University, Madurai, India, from November 1st November - 15th, November, 2011.
- Participated in Hands-on Training in **Real Time PCR workshop** Organized by Invitrogen Bio services India Private Limited, from 9th – 11th January, 2013, Bangalore, India.
- Participated in Hands-on training on **Ion Torrent- Personal Genome Machine (PGM™) Workshop**, Organized by Invitrogen Bio services India Private Limited, from 6th-7th February, 2013, Bangalore, India.

RESOURCE PERSON FOR WORKSHOP/ MEMBER OF ORGANIZING COMMITTEE FOR CONFERENCES

- Demonstrated Practical Session on Detection of HIV variants by Heteroduplex Mobility Assay (HMA) in DBT Sponsored Training Programme on “Applications of **Emerging Technologies for the Diagnosis of sexually Transmitted Infections**” held in National Institute for Research in Reproductive Health, ICMR, Mumbai from 20th Aug- 7th September 2007.
- Member of Organizing and Transport committee in International Conference on Fundamental and Translational Research on HIV/AIDS: Global Perspectives from 5-8, October, 2008, Mumbai.
- Member of Organizing and Transport committee in International Conference on Gender based violence and Sexual and Reproductive Health from 15th -18th February 2009, Mumbai. Jointly organized by National Institute for Research in Reproductive Health, ICMR and ISSRF.

MENTORING AND EDUCATIONAL/ TRAINING SEMINARS CONDUCTED:

- Routinely trained/advised personnel in the lab in the use and analysis of PCR and Real time PCR
- Used high impact visual aids and brainstorming techniques to introduce graduate level students to state-of-the-art scientific research
- Advantages of adopting PCR as a diagnostic technique for better long-term clinical care of patients
- Leveraged extensive “on the bench” and troubleshooting experience to successfully instruct clinical laboratory staff about molecular biology based diagnostic techniques KLE University Belgaum.

COMPUTER SKILLS/ OTHER TRAINING:

- Bio-informatics related many softwares including Primer designing, (Primer 3)
- Work Bench analysis of Nucleic acids , Proteins ,
- HIV genome analysis using different tools available from Los Alamos
- National Lab HIV Sequence Database - <http://www.hiv.lanl.gov/>
- Sequence analysis programs (web based and in-house programs)
- DNA Star, Sequencher ,Bio edit, Expasy, Clastal W,
- Genome analysis and sequence analysis, N- linked glycosylation,
- PDB (Protein database bank) HIV Drug resistance database, Stanford HIV database

MEMBERSHIPS WITH SCIENTIFIC SOCIETIES

- International AIDS Society (IAS) Member
- NIH National Institutes of Health Alumni Association of India.
- International Society for Infectious Diseases (ISID)
- European Federation of Biotechnology,
- Indian Science Congress Association Kolkata (<http://sciencecongress.nic.in>)
- World Academy of Science, education and Technology (WASET)
- American Academy of HIV Medicine (AAHIVM)

ONLINE COURSES NATIONAL INSTITUTE OF HEALTH, (NIH) USA

- Human Participants Protection Education for research Teams National Institute of Health (NIH) Office of Extramural Research, USA (Date of completion: 12/21/2010). National Institutes of Health (NIH) Office of Extramural Research certifies that **Shivaji K Jadhav** successfully completed the NIH Web-based training course on “Protecting Human Research Participants (Certification Number: 587316)
- The National Institute of Health (NIH) Office of Clinical Research Training and Medical Education certifies that **Shivaji K. Jadhav** completed the computer-based Clinical Research Training course. Completion Date: 12/21/2010.

SEQUENCES DEPOSITED IN NCBI, GENE BANK

Accession Numbers: HM161872, <http://www.ncbi.nlm.nih.gov/nuccore/HM161872.1>
HM161873, <http://www.ncbi.nlm.nih.gov/nuccore/HM161873.1>
J F 518878, <http://www.ncbi.nlm.nih.gov/nuccore/JF518878.1>
J F 518879, <http://www.ncbi.nlm.nih.gov/nuccore/JF518879.1>

RESEARCH FEATURES

- Can HIV spread through saliva? Case has doctors thinking, DNA News Paper, Mumbai February 9, 2011,
- http://www.dnaindia.com/india/report_can-hiv-spread-through-saliva-case-has-doctors-thinking_1505249
- http://www.hopkinsguides.com/hopkins/ub/citation/21453452/Possible_transmission_of_HIV_Infection_due_to_human_bite
- Research News “Presence of HIV in blood and semen – double trouble” Current science, Journal Vol, 01, No 4, 25 August 2011. <http://www.ias.ac.in/cursci/25aug2011/479.pdf>
- <http://news.oneindia.in/2011/02/14/geneticsequence-variation-in-blood-and-sperm-of-hivmen-id0126.html>
- [http://www.kleuniversity.edu.in/sites/default/files/image/A-VI-\(Guides%20List\).pdf](http://www.kleuniversity.edu.in/sites/default/files/image/A-VI-(Guides%20List).pdf)
- <http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/national-science-day-observed/article6950153.ece>
- <http://www.nihindia.com/cgi-bin/index.cgi?page=member>

EXTRACURRICULAR ACTIVITIES / VOLUNTEER SERVICE/OUTREACH

- First Class in State Level Science Talent Examination for High School Level.
- N.C.C. (National Cadet Corps) “A” “B” & “C” Certificate Holder.
- Voluntary regular Blood donor - Certificates
- Attended National Level Camps in N.C.C - National Integration Camp (NIC) - Allahabad.
- All India trekking Expedition Camp - Goa.
- Winner of many prizes in Sports & played hockey District level competitions.

STRENGTHS

- ❖ Hard work and excellent Time Management
- ❖ Ability to work in team as well as an individual.
- ❖ Quality conscious and Proactive attitude
- ❖ Inventive Innovative and Analytical mindset
- ❖ Excellent communication skills / Presentation skills
- ❖ Good Team leadership skills
- ❖ Achieve goal oriented tasks for tangible outcome

HOBBIES

- Playing & watching cricket,
- Coin & stamp collection,
- Nature studies, gardening, traveling, etc.

- **Leadership Skills, as a Team Member and beliefs:**

Possess strong oratory and leadership skills, technical writing and reviewing abilities, take direct responsibilities, good multi-tasking skills, strong analytical skills, possess managerial and administrative skills developed over time, result oriented, thoughtful, respectful, upright, believe in hard work/diligence to overcome challenging situations and as a team player - a natural motivator, respect human rights and dignity, respect different religions, beliefs, cultures, diverse values and easily adaptable.

INTERNATIONAL SCIENTIFIC VISITS

- ☞ **Sydney**, Australia (IAS Society Conference): 2007.
- ☞ **Bangkok**, Thailand (Keystone Symposium): 2008.
- ☞ **Boston**, United States of America, (USA): 2008-2009.
(Fogarty AITRIP) - Boston University School of Medical School
- Harvard Medical School, Boston, USA
- ☞ **Pittsburgh**, Pennsylvania, USA. (Microbicide Conference): 2010.
- ☞ **Georgia**, Atlanta, USA (AIDS Vaccine): 2010.
- ☞ **Denver**, Colorado, USA (HIV Vaccine): 2012.
- ☞ **Utrecht**, Netherlands (HIV Dynamics & Evolution): 2013.
- ☞ **Rio de Janeiro**, Brazil, (Advancing Vaccines): 2013.
- ☞ **Seattle**, Washington USA. (HIV Adjuvant Meeting): 2014.
- ☞ **Bangkok, Thailand** (Mahidol Vivax Research Centre): 2015

PERSONAL PROFILE:

Date of Birth	: 1 st June 1979
Passport No	: M7489952
	Issued: 24/03/2015, Expiry: 23/03/2025
Father Name	: Shri Kashinath Vishnu Jadhav
Mother Name	: (Late) Smt, Shantabai Jadhav
Spouse Name	: Varsha Shivaji Jadhav
Passport No	: M7937885, Issued: 06/04/2015 Expiry: 05/04/2025
Nationality	: Indian
Language Proficiency	: English, Marathi, Hindi, Kannada.
Driving license	: Two wheeler and light motor vehicle LMV (car) – KA25 20140005486
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BIBLIOGRAPHY

Shivaji K Jadhav, Shilpa M Velhal, Alaka Deshpande, Atmaram H Bandivdekar. Association of Human Mannose receptor in sexual transmission of Human Immunodeficiency Virus in serodiscordant couples. **AIDS Res Hum Retroviruses**. 2013 Jan; 29(1):156-63. (**Impact Factor 2.246**) PMID: 23148569 [Cited 4]

<http://www.ncbi.nlm.nih.gov/pubmed/23148569>

Alaka K Deshpande, **Shivaji K Jadhav**, Atmaram H Bandivdekar. Possible Transmission of HIV infection due to Human bite. **AIDS Research and Therapy**. March 31; 8(1):16. 2011 [Highly Accessed] [Cited 8] (**Impact Factor - 2.52**)

<http://www.ncbi.nlm.nih.gov/pubmed/21453452>

Shivaji K Jadhav, Shilpa M Velhal, Alaka Deshpande, Anurupa Maitra, Chinnaraj Saravanan, Atmaram H Bandivdekar.(2011) Characterization of Human Immunodeficiency Virus (HIV1 C) Variants in Peripheral Blood Mononuclear Cells (PBMCs) and Spermatozoa. **Journal of Medical Virology**, 2011;83: 760–767. (**Impact factor -2.89**)

<http://www.ncbi.nlm.nih.gov/pubmed/21412785>

Uday Kumar GJ, **Shivaji Kashinath J**, Manohar Gangappa P (2013) Immune Reconstitution Inflammatory Syndrome (IRIS) Affecting the Central Nervous System (CNS) In Patient with HIV and Tuberculosis on Antiretroviral Therapy. 2:653 doi:10.4172/scientificreports.653

<http://www.omicsonline.org/scientific-reports/srep653.php>

S K Jadhav, S M Velhal, A Deshpande and AH Bandivdekar “Analysis of HIV Variants in blood and semen in serodiscordants by Heteroduplex mobility assay” Abstract from Ninth International Congress on Drug Therapy in HIV Infection. Glasgow, UK. 9–13 November 2008, Published: 10 November 2008. **Journal of the International AIDS Society**, 2008, 11 (Suppl 1):P211,

<http://www.jiasociety.org/content/11/S1/P211>

Shivaji K Jadhav, S M Velhal, Alaka Deshpande, A H Bandivdekar. Molecular Characterization of HIV Variants in Urogenital secretions of HIV positive individuals and its Association with Sexual Transmission of HIV, **AIDS Research and Human Retroviruses**, October 2010, 26(10): A-1-A-184.

<http://www.liebertonline.com/aid>

Shivaji K Jadhav, Alaka Deshpande and Atmaram H Bandivdekar. A7, Possible Transmission of HIV Infection Due to Human Bite. JAIDS, **Journal of Acquired Immune Deficiency Syndromes**. 59():71, April 2012.doi: 10.1097/01.qai.0000413786.74706.57

http://journals.lww.com/jaids/Abstract/2012/04001/A7_Possible_Transmission_of_HIV_Infection_Due_to.77.aspx.

Training and Research Experience in Parasitology/ Malaria / Vector Biology **Mahidol Vivax Research Centre:MVRU**

Mentors :**Dr. Jetsumon Sattabongkot Prachumsri**

PhD. Biology, Faculty of Science, Mahidol University,

Director, Mahidol Vivax Research Centre

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Area of training Experience :

- Rearing of Mosquitoes in controlled conditions
- Staining of Salivary Glands Oocysts and Gut for Identification of Sporozoites
- Gametocyte staining and Counting
- Mating and membrane feeding experiments
- Plasmodium blood and Liver stage Cultures

Publications : Parasitology/ Malaria / Vector Biology

Anopheles subpictus carry human malaria parasites in an urban area of western India and may facilitate perennial malaria transmission. Ashwani Kumar, Rajeshwari Hosmani, **Shivaji Jadhav**, Trelita de Sousa, Ajeet Mohanty, Milind Naik, Adarsh Shettigar, Satyajit Kale, Neena Valecha, Laura Chery, and Pradipsinh Rathod. Malar J. 2016 Feb 27;15(1):124.PMID:**26919828** **Malaria Journal**, IF 3.2)



(DR.SHIVAJI K JADHAV)

REFERENCES

1. **Dr. Atmaram. H. Bandivdekar (Ph.D Guide/ Research Mentor)**
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Email: batmaram@gmail.com
http://www.nirrh.res.in/staff/scientific/DrBandivdekar_resume.htm
2. **Dr Aurobindo Roy, Emeritus Scientist,**
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4. **Dr. Deborah Anderson (Fogarty Fellowship mentor (AITRIP)**
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5. **Dr. Kenneth Hugh Mayer. (Fogarty Fellowship Director (AITRIP)** Fenway Clinic, Brown AITRIP
Director Infectious Diseases Division, The Miriam Hospital, 164 Providence, RI 02906, USA
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