

Short CV

Dr.Mausumi Bharadwaj, Ph.D, FNASc.
Scientist F & Coordinator Molecular Biology Group.

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She is having 24years of research experience in the broad area of Molecular Virology specially in **Human Papillomavirus (HPV)** mediated cancers, its genomics and viral vaccines. Eight years of research experience in USA (1992-2000) as Post-doctoral Fellow (**Chicago Medical school, Chicago, USA**) and as Faculty (**University of New Mexico, Albuquerque, USA**). All of her projects primarily aim at identifying informative and predictive markers for disease predisposition in our population.

She did her Ph.D from CSIR-Indian Institute of Chemical Biology (Degree awarded from Jadavpur University), Kolkata; M.Sc. in Biochemistry (University of Calcutta); B.Sc.Chemistry(Hons.),Physics and Mathematics (University of Calcutta). Qualified National Examination test CSIR (NET).

Her major thrust are is **cervical cancer** followed by oral cancer, colorectal cancer and Prostate Cancer. She has been instrumental in setting up HPV vaccine initiative in collaboration with German Cancer Center , DKFZ, Germany to develop cost-effective, chimeric vaccines against India specific HPV16 variants. In addition, her establishment of VLP based HPV serology for HPV 16/18 under WHO program was well recognized globally.

She is experienced in handling several International (Indo-German, WHO etc.) and National Projects (DST, CSIR, ICMR etc.) independently (as Principal Investigator).

She has guided a number of students who have obtained advanced degrees of Ph. D.(8 awarded, 4 pursuing), Post-Doctoral students (PDFs) (5 completed, 1 pursuing), M.D.(9 completed, 1 submitted), MDS (1 awarded, 2 submitted), M.S., D.N.B., M. Sc., and M. Tech/. from reputed universities and is regularly invited to deliver advanced

courses of study at a number of institutions such as Jawarlal Nehru University (JNU), IIT Kharagpur, Indraprastha University, Jamia Millia Islamia, Miranda House (Delhi University), IILM Greater Noida and IMS Gaziabad etc.

She is having **professional membership** from both International [(HUGO, London (By Nomination); International Human Papillomavirus Society (IPVS)], National Society [life member of Indian Association for Cancer Research (**IACR**) and Society of Biological Chemists (**SBC**)].

She is elected Fellow of National Academy of Sciences (FNASc.)

Publications :75 Book chapters: 4 Conference abstract 107

Few Research Highlights (Last 5 years) :

- Her pioneering work showed for the first time that incidence of high-risk HPV infection may be associated with prostate cancer development or progression in India. This finding supports the hypothesis that HPV might have a possible role in the development or progression of prostate cancer (**Sci Rep. 2015 Jan 16;5:7822**).
- Her group identified and validated immunogenic potential of Indian specific HPV-16 variant constructs for development of cost-effective second generation vaccine development (**Sci. Rep. 2015 Sep;43(5):344-8**).
- Her group also identified six major variations in E6 gene and showed their specific interaction with B-cell and T-cell epitopes of HLA complex in Indian population, which that may be potential candidate for future vaccine development (**J.Virol.Methods, 2015**).
- Her group identified [novel microRNAs \(miRNA\) through miRNA profiling in HPV-mediated cervical precancer/cancer in Indian women. \(Tumor Biol. 2016 Apr;37\(4\):4585-95\)](#).
- Her group showed that NF- κ B1 /NF- κ B1a polymorphisms are associated with the progression of cervical carcinoma in HPV infected postmenopausal women from rural area (**Tumor Biol. 2015 Aug;36(8):6265-76**).
- Her group has provided insight into the mechanism of HPV mediated cervical cancer and showed there is synergistic effect of HPV and Notch family proteins (Notch 1 and 2) through the deregulation

of Notch signaling for proliferation and development of cervical cancer. (**PLoS One. 2014 Jun 6;9(6):e98642**).

- Dr. Bharadwaj's lab has showed the prevalence of HPV infection among healthy adolescents (school children of ages 8-17 years) in India through self-urine sampling (*J Med.Virol*, 84: 298-305, 2012). Additionally, she analyzed the influence of religion and assessed awareness of HPV and cervical cancer and vaccine acceptance among parents and adolescent children in India (**PLoS One, 2014 Nov 9(11): e112861**).
- Her group has provided insight into the mechanism of development of sporadic colorectal cancer and identified that genetic mutation in Kras gene and epigenetic modification in RASSF1A, FHIT and MGMT genes are associated with the overall development of the disease and may be used as diagnostic or prognostic markers in this group of cancers (**PLoS One 2013.8(4):e60142**).
- Her group showed Arginine at codon72 of *p53* and GG genotype at 309 in promoter of *MDM2* together play an important role in the progression of cervical cancer along with HPV infection in postmenopausal women. **DNA Cell Biol. 2013 Jan; 32(1): 19-27**.
- Her group showed association of p16 (CDKN2A) and RB1 Polymorphisms with Susceptibility to Cervical Cancer in Indian Population. **Mol Biol Rep. 2012 Jan;39(1):407-14**.
- Her group identified novel missense mutation in *FHIT* Gene and Interpreting its effect in HPV Mediated Cervical Cancer in Indian Women. **Mol Cell. Biochem 335: 53-58, 2010**.

