**SHARMILA SENGUPTA, PHD, FASc &T, FNASC.**

Eminent Scientist and Former Professor & Director (In-charge), National Institute of Biomedical Genomics, Kalyani, West Bengal

**Past Appointment:** Professor, Human Genetics Unit, Indian Statistical Institute, Kolkata

**Education**

M.Sc. (Chemistry):

Utkal University (Ravenshaw College, Cuttack)

Post-M.Sc: Saha Institute of Nuclear Physics (SINP), Kolkata

PhD: SINP, University of Calcutta

**Research Interests**

Cancer Biology, Genomics and Epigenomics of HPV related cervical cancers, Genetic Epidemiology and Natural history studies on HPV related cervical cancers

**Current Research Projects on Gynecological Cancers**

- Multi-dimensional Research to Enable Systems Medicine: Acceleration using a Cluster Approach' at Kalyani, West Bengal" (SYMEC)- (Department of Biotechnology, Govt. of India, 2017), as ***Principal Investigator*** of the "Cervical Cancer" component at the National Institute of Biomedical Genomics and overall Administrative Coordinator of this multi-institutional project.

- **Sengupta S** (2018). Understanding HPV16 E7 mediated gene regulatory mechanisms in HPV16 related cervical cancer pathogenesis. (Department of Biotechnology, Govt. of India).

- **Sengupta S** (2018). An exploratory analysis of the genomic and epidemiological underpinnings of high risk HPV persistence in a cohort of closely followed married women nested to the Kalyani Cohort. (Department of Biotechnology, Govt. of West Bengal).

- "Integrating multi-omics data by big data analytics to infer optimal life-course trajectories for management of non-communicable diseases (NCDs): Cervical cancer as an exemplar (2020) as ***the Academic Co-ordinator*** with Prof. S Das (Institutional Head) and Drs. A Maitra and A Basu as project PIs.

**Honours**

- Fellow, West Bengal academy of Science and Technology, 2013
- Fellow, The National Academy of Sciences, India (NASI), 2019

- Member of the committee for mentoring Colleges under Star College Scheme of Department of Biotechnology (DBT), Govt. of India
- Standing Chairman, Institutional Ethical Committee, Child in Need Institute (Pailan, South 24 Parganas), College of Medicine & JNM Hospital (Kalyani), Indian Statistical Institute (Kolkata)
- Chairperson, Institutional Animal Ethics Committee of the Indian Association for the Cultivation of Science (Kolkata)
- Member, PhD Committee of the Department of Biotechnology, University of Calcutta
- Member, Departmental Research Committee, Dept. of Biochemistry & Biophysics, Kalyani University
- Member of the Internal Biosafety Committee of the University of Kalyani (nominated by Department of Biotechnology, Govt. of India)
- Former Secretary (2016-19) and current Executive Committee Member (19-22), Indian Association for Cancer Research (IACR)
- Former President, Calcutta Consortium of Human Genetics (CCHuGe) and current EC Member
- Editorial Board Member, Scientific Reports, Nature Publications

**Professional Society Memberships**

1. Life Member of the Environmental Mutagen Society of India, 1991.
2. Life Member of Asia Oceania Research Organization on Genital Infection and Neoplasia (AOGIN), 2009.
3. Life Member of Calcutta Consortium on Human Genetics, 2009.
4. Life Member of the Indian Association of Cancer Research, 2011
5. Life Member of the Society of Biological Chemists (India), 2012
6. Life Member of The Indian Society of Human Genetics, 2012

**Research and Outreach Programs**

- Mentored more than 10 students for their PhD degrees, several Post-doctoral Fellows and Summer Trainees etc.
- Delivered invited talks at various Workshops, Conferences (National and International)
- Published over 40 Research Articles and Book Chapters.
- Participated in conducting outreach programs for School, College and University level students on the relevance of "Genomics in Human Health" as well as conducting cervical cancer screening programs both at the population level as well as hospital-based employing HPV testing and Pap smears in various parts of West Bengal and in the Northeast region of India.
- Driving capacity building efforts in the Northeast Region by providing leadership to a major programme on "***Enhancing Capacity in Genomics-Driven Research in Human Health & Disease in the North-East Region,"*** supported by the Department of Biotechnology, involving co-ordination and teaching in short- and long-term training programs at basic, medium and advanced levels, for three years. Over 200 students and faculty members are beneficiaries of this programme.

**Some recent publications**


1. Sharma S, Mandal P, Sadhukhan T, Roy Chowdhury R, Mondal N.R., Chakravarty B, Chatterjee T, Roy S and Sengupta S (2015). Bridging Links between Long Noncoding RNA HOTAIR and HPV Oncoprotein E7 in Cervical Cancer Pathogenesis. Scientific Reports 5:11724/DOI: 10.1038/srep11724. [Impact Factor 4.289.
2. *Mandal, P., * #Bhattacharjee B., Sen, S., Bhattacharya A., Roy Chowdhury, R., Mondal, N. R., and #Sengupta, S (2016). Complete genome sequences of eight Human Papillomavirus type 16 Asian American and European variant isolates from cervical biopsies and lesions in Indian women. Genome Announcements 4(3) e00243-16.#co-corresponding authors.
3. Saha Sharma, S., Roy Chowdhury, R., Mondal, N.R., Chakravarty, B., Chatterjee, T., Roy, S., and Sengupta, S. (2016). Identification of genetic variation in the lncRNA HOTAIR associated with HPV16-related cervical cancer pathogenesis. Cellular Oncology 39, 559-572.
4. Das Ghosh, D., Mukhopadhyay, I., Bhattacharya, A., Roy Chowdhury, R., Mandal, N.R., Roy, S.,and Sengupta, S (2017). Impact of genetic variations and transcriptional alterations of HLA class I genes on cervical cancer pathogenesis. International Journal of Cancer 140 (11), 2498-2508.
5. Saha Sharma, S., Roy Chowdhury, R., Mandal, N.R., Roy, S.,and Sengupta, S (2017). Expression signatures of HOX cluster genes in cervical cancer pathogenesis: Impact of human papillomavirus type 16 oncoprotein E7. Oncotarget 8, 36591-36602.
6. Sen S., Mandal P., Bhattacharya A., R., Mondal, N.R., Chakravarty, B., Chatterjee, T., Roy, S., and Sengupta, S. (2017). Impact of viral and host DNA methylations on HPV16-related cervical cancer pathogenesis. Tumor Biology, 39 (5), 1-13.
7. Bhattacharya A., Sen S., Mandal P., Saha S. S., Sarkar S., Pathak O. P., Biswas L., Roy J., Banerjee R., Chowdhury R. R., Pal M., Mukherjee A., Sengupta S. (2018). Prevalence and age-wise distribution of Human Papillomavirus type 16/18 infections among hospital screened women of a peri-urban area in West Bengal: Impact of socio-demographic factors. Cancer Epidemiology, https://doi.org/10.1016/j.canep.2018.03.005.
8. Mandal P., Sharma Saha S., Sen S., Bhattacharya A., R., Mondal, N.R., Chakravarty, B., Chatterjee, T., Roy, S., and Sengupta, S (2019). Cervical cancer subtypes harbouring integrated and/or episomal HPV16 portray distinct molecular phenotypes based on transcriptome profiling of mRNAs and miRNAs. Cell Death and Discovery 5:81.


Our epidemiological data and findings on HPV prevalence at the population level, have been identified by WHO/ICO as key resources pertaining to India ***["WHO/ICO Information Centre on HPV and Cervical Cancer (HPV Information Centre). Human Papillomavirus and Related Cancers in India. Summary Report 2019].***

Laikangbam P, Sengupta S, Bhattacharya P, Duttagupta C, Singh D, Verma Y, Roy S, Das R and Mukhopadhyay M (2007). A comparative profile of the prevalence and age-distribution of human

papillomavirus type 16/18 infections among three states of India with focus on Northeast India. International J of Gynecol Cancer. 17, 107-117.