

Curriculum Vitae

CHAYAN BHATTACHARJEE, PhD

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Present position: Post-Doctoral Fellow, IISER, Kolkata.

Project Title: Leveraging reverse genetics strategies to study structure-function interplay of virus host attachment spike protein to design therapies of COVID-19.

Major Field: Molecular Virology and Cell Biology.

Specific Interests: The structural and functional aspect of corona viruses, neuro-covid. Hepatitis C virus (HCV) entry and endocytosis.

Detail of Educational Qualifications:

- **January 2022- Present:** Post-doctoral Fellow in molecular Virology (IUSSTF project) under the supervision of Dr. Jayasri Das Srama, Department of Biological Science, Indian Institute of Science Education and Research (IISER), Kolkata.
- **May 2016 –August 2021:** PhD in Molecular Virology and Cell Biology under the supervision of Dr. Aparna Mukhopadhyay, Department of Life Sciences, Presidency University, Kolkata, India.
- **July 2010 –August 2012:** M.Sc in Biotechnology (Special paper: Pharmaceutical and Medical Biotechnology), Vidyasagar University, West Bengal, India.
- **June 2007 –July 2010:** B.Sc (H) in Biotechnology, West Bengal University of Technology, West Bengal, India.

Research Experience:

2016 – 2021 (PhD): Investigating the molecular details of HCV entry events. Supervised by Dr. Aparna Mukhopadhyay, Presidency University Kolkata, India.

- Production of fluorescent labeled lentiviral HCV pseudo particles (HCVpp) to study HCV trafficking events.
- Studies of hepatocellular trafficking of HCVpps in Rab1a knock-down Huh7 cells.
- Analysis of viral RNA from cytoplasmic fractions by qRT-PCR.
- HCV nucleotide and protein sequences, structural analysis and protein-protein interactions by *in silico* studies.
- Preparation of plant leaf extracts and investigates their inhibitory property in HCVpp entry events.

February – June 2012 (Dissertation, M.Sc.): *In silico* determination of melanoma *CDKN2A* gene expression in Homo sapiens. Supervised by Dr. Santasabuj Das, NICED, Kolkata.

- Nucleotide analysis of *CDKN2A* gene transcript.
- Structural and functional analysis of CDKN2A protein.

February – May 2010 (Dissertation, B.Sc.): Study of antimicrobial activity from different citrus peels. Supervised by Dr. Sauruv Bhattacharya, Institute of Genetic Engineering, Kolkata (presently in Bose Institute, Kolkata).

- Preparation of peel extracts from three different *Citrus Species* (common name: Orange, Lemon and Musambi).
- Study the antimicrobial activity of peel extracts by agar diffusion method on different bacteria (both Gram positive and Gram negative).
- Analysis of antimicrobial activity.

Overall expertise:

In Wet lab

- Mammalian cell culture.
- Animal handling (rat model).
- Molecular subcloning of DNA.
- Transfection of foreign genes in mammalian cell lines.

- Production of fluorescent labeled lentiviral particles of HCV (HCVpp).
- Confocal and fluoresce microscopy (Leica).
- qRT-PCR analysis.
- Western Blotting
- Viral plaque assay.
- Cell fractionation assay.
- ELISA
- Preparation of plat extracts using by different solvents.
- MTT assay.
- FACS analysis.

In Dry lab

- Mega7 software (version MEGA 7.0.26)
- Discovery Studio (DS) 2.5
- SPSS 20.0
- ImageJ, Fiji

Teaching Experiences:

- **November 2021 – December 2021:** Faculty at the Department of Biology in Royal Academy, Dimapur, Nagaland.
- **January 2019 - February 2021:** Assistant professor (visiting) in the Department of Microbiology, Sister Nivedita University, Kolkata, India.
- **August 2018 – September 2018:** Visiting faculty for ‘School for Skills in Allied Health Sciences’ project at Baroma Sirona Hospital, Panksura, India.
- **September 2014 - January 2017:** Visiting faculty at the department of Biology in Adamas Career, Kolkata, India.

Publications:

Journal publication:

1. **Chayan Bhattacharjee**, Suman K. Nandy, Pratik D, Aparna Mukhopadhyay*. Differential interaction strategies of hepatitis c virus genotypes during entry– An in silico investigation of envelope glycoprotein E2 - CD81 interaction. *Infection, Genetics and Evolution.* 69 (2019), Jan 11, 48–60. doi: 10.1016/j.meegid.2019.01.008.
2. **Chayan Bhattacharjee**, Aparna Mukhopadhyay*. Generation of HCV pseudoparticles to study early viral entry events- Rab1a is involved in HCV entry. (Manuscript is under revision in ‘Virus Research’). bioRxiv Link: <https://biorxiv.org/cgi/content/short/2021.03.11.434898v1>.
3. **Chayan Bhattacharjee**, Maitri Singh, Debisukti Das, Sujit Chaudhuri, Aparna Mukhopadhyay*. Current Therapeutics against HCV: A Review. *VirusDis.* 2021 Jul 15;32(2):1-16. doi: 10.1007/s13337-021-00697-0.
4. **Bhattacharjee C**, Mukhopadhyay A. 31 Years of Discovery and the Progress of Hepatitis C Virus: 2020, Nobel Prize In Physiology or Medicine. *Ann Gastroenterol Dig Syst.* 2021; 4(1): 1039. MedDocs Publishers.

Proceeding Publications:

1. **Chayan Bhattacharjee**, Aparna Mukhopadhyay and Mukhopadhyay P K. Protection of arsenic induced reproductive toxicity by supplementation with isocaloric high protein diet: A study on adult male rats. *Proceedings International Ergonomics Conference*, December 3-5, 2014: 577-582.
2. **Chayan Bhattacharjee**, Amit Chakraborty, Sudipa Chakraborty and Saurav Bhattacharya. Study of antimicrobial activity from different citrus peels. *Biology of useful microbes* (ISBN 978- 81-8487-264-4). 27(2014), 389-392.

Book Publication:

1. *Nutrition, Obesity and Bariatric Surgery.* Sarfaraj J Baig, Aparna Mukhopadhyay, Pallawi Priya and **Chayan Bhattacharjee**. Purple Designs (9831164513).

Presentations and Conferences attended:

1. Participated and presented a poster at international conference ‘HCV 2019’, Seoul, South Korea on October 5-8, 2019.

2. Participated and presented a poster at ‘VIROCON – 2018’, organised by Indian Virological Society, Postgraduate Institute of Medical Education and Research Chandigarh, India on November 12-14, 2018.
3. Participated and presented a poster at ‘VIROCON – 2017’, organised by Indian Virological Society, Nitte University, Mangaluru, India on December 7- 9, 2017.
4. Participated and presented a poster at the ‘International Symposium on HIV and Hepatitis’, organised by South Asian University, New Delhi on September 1, 2015.
5. Participated and presented an oral presentation at ‘23rd West Bengal State Science and Technology Congress’, organised by Presidency University, Kolkata on February 28- 29, 2016.
6. Participated and presented a poster at 1st National symposium on ‘Molecules to system’, organised by Presidency University, Kolkata on January 29th – 31st, 2015.
7. Participated and presented a poster at National symposium entitled ‘Modern Trends in Biological sciences’ organised by Presidency University, Kolkata on February 21st, 2014.
8. Participated and presented an oral presentation at national conference on ‘Biology and Bioinformatics of Economically Importance Plants and Microbes’, organised by University of North Bengal, West Bengal on February 17th – 19th, 2012.
9. Participated and Presented a poster at ‘The First International Bio – Medical Students’ Research Conference’, organised by Bio- Medical Students’ Research Initiatives (BMSRI) in association with KPCSWA, Kolkata on March 17th – 19th, 2012.
10. Participated at a UGC sponsored National Seminar on ‘Current Trends in Biological Sciences’, organised by Department of Biological sciences, PTMV, Medinipur, West Bengal on April 29th – 30th, 2011.

Workshops attended:

1. Participated in an international workshop on ‘Gene expression Analysis by Real Time PCR’, organised by South Asian University, New Delhi on December 9 – 11, 2015.
2. Participated in a national workshop on ‘*In silico* Analysis of Mutation’, organised by University of Kalyani, West Bengal on December 16th, 2015.
3. Participated in a national workshop on “Role of CPCSEA in Animal Welfare”, organised by CPCSEA, Kolkata on August 2nd, 2014.

4. Participated in an International workshop on ‘Understanding and Applying Bio-Statistics- from theory to practical application of statistical principals for Bio-Medical researches’, organised by Bio- Medical Students’ Research Initiatives (BMSRI) in association with KPCSWA, Kolkata on March 17th – 19th, 2012.
5. Participated in a ‘CME cum Workshop on Stem Cell Therapy and Research’, organised by Netaji Subhash Chandra Bose Cancer Research Institute, Kolkata on December 27th – 28th, 2011.
6. Participated in a national workshop on ‘Recent Trends in Molecular Modeling and Simulation in Structural Biology’, organised by University of Kalyani, West Bengal on November 14th – 18th, 2011.
7. Participated in a workshop on ‘Paradigms of Synthetic Biology’, organised by Jaypee University of Information Technology, Solan, India and Joint Bioenergy Institute Emeryville, CA, USA on July 26th – 28th, 2011.

Awards and Achievements:

1. Selected as a ‘**Travel Award**’ winner in international conference ‘**HCV 2019**’, Seoul, South Korea.
2. Participated as an evaluator of the 21st National Children's Science Congress 2013, Government of India.
3. Attend International Bio-Medical Students’ Research Conference (Konference’12) at KPC Medical College & Hospital, Kolkata on March 17th – 19th, 2012 and achieved the ‘Best Poster Award’ in poster presentation event.

Name of Referees:

Dr. Aparna Mukhopadhyay

Assistant Professor, Molecular Virology Laboratory,

Department of Life sciences (DLS)

Presidency University

86/1 College Street,

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West Bengal, India

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Dr. Pralay Majumdar

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Dr. Partho Sarothi Ray

Associate Professor

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