



Dr. Preksha Jain

Assistant Professor

Email- [preksha.jain@dpu.edu.in](mailto:preksha.jain@dpu.edu.in)

- Research Areas of Interest- Molecular virology, Virus-host pathogen interactions, Vascular endothelial cell biology

## ACADEMICS

- **Ph.D., Biotechnology:** National Institute of High-Security Animal Diseases, Barkatullah University, Bhopal. 2005
- **M.Sc. Applied Microbiology & Biotechnology:** Dr. H. S. Gour University, Sagar. 2000
- **B.Sc., Microbiology:** Devi Ahilya University, Indore, 1998

## RESEARCH EXPERIENCE

- **Scientist (2023-2024) – Seagull Biosolutions, Venture Centre, Pune.**  
Project: International collaborative project on Synthesis of Virosome-Cell Culture-Based Influenza A H1N1 Vaccine
- **DST WOSA Scientist (2018-2022) – National Institute of Virology, Pune**  
Project: Characterization of vascular endothelial stress responses induced by human Japanese encephalitis and its non-structural proteins.  
Principal Investigator- Dr. Preksha Jain, Funding- Extramural- DST



Dr. D.Y. Patil Vidyapeeth's  
**Dr. D. Y. Patil Biotechnology & Bioinformatics Institute** Mumbai-Bangalore  
Express High way, Tathawade, Pune 411033  
Mail: [info.biotech@dpu.edu.in](mailto:info.biotech@dpu.edu.in), Website: <http://biotech.dpu.edu.in>

---

Project: Studies on the effect of full-length SARS-CoV-2 envelope spike glycoprotein on the physiology of cultured vascular endothelial cells in vitro.

Funding: Intramural

- **Post Doctoral Associate (Oct. 2017- 2018) - National Institute Of Virology, Pune**

Project: Identification, characterization, and validation of neutralizing monoclonal antibodies (MABs) against Hepatitis E virus.

- **Post Doctoral Associate (2014-2017) - National Institute Of Virology, Pune**

Project: Characterizing the role of *Dengue* virus, and viral non-structural protein NS1 in affecting barrier and hemostatic functions of vascular endothelial cells in vitro towards defining pathogenesis of dengue hemorrhagic fever (DHF).

- **Post Doctoral Associate (2006- 2009) - National Institute of Virology, Pune**

Project: Studies of the effect of *Dengue* viruses on megakaryopoiesis and hemostatic properties of the vascular endothelial cells in vitro.

- **Research Scientist (2004 – 2005) - Indian Immunologicals Ltd., Hyderabad**

Projects: Expression of FMDV recombinant 3AB, Generation of Rabies mouse and human recombinant monoclonal antibodies, Expression of Rabies GP-LHRH in plant expression system, Expression of CocciDia recombinant protein in plant expression system.

- **Research Fellow (2001- 2004) – National Institute of High-Security Animal Disease, Barkatullah University, Bhopal**

Title: Molecular cloning, nucleotide sequence, and expression of structural and non-structural regions of *bovine viral diarrhoea virus (BVDV)* genome of Indian strains.

- **Extramural Funding**

Principal Investigator: Department of Science and Technology, Women Scientist Scheme (WOS-A) Technical approval on project: Characterization of vascular endothelial stress responses induced by human Japanese Encephalitis and its non-structural proteins.

Time Period- 3 years, Grant- 30,00,000 /- Rs

- **Areas of Expertise**

Molecular Biology, Virology in-vitro assays, Protein Expression and Purification, Effect of viruses on Haematopoietic stem cell differentiation, Vascular Endothelial cell biology, Animal

cell and 3D hydrogel cell culture, Electron Microscopy, Fluorescence and confocal microscopy techniques in virus research, Acquaintance with bio-safety guidelines about handling of pathogenic viruses in a BSL-3, 4 facility.

### **Publications-**

- SARS-CoV-2 Spike Glycoprotein exposure alters actin morphology and expression of chemokines in cultured endothelial cells *in vitro*, suggesting endothelial inflammation. Preksha Jain<sup>1</sup>, Sharda Prasad<sup>1</sup>, Virendra S Meena<sup>1</sup>, Priya Abraham, Atanu Basu<sup>1\*</sup> 2022. Submitted to IJMR.
- Immunohistochemical and molecular detection of pH1N1 in Necropsied Pulmonary Tissues of fatal cases with Indeterminate Conventional Testing. Shleke V., Potdar V., Chadha M., Kolhapure R., Prasad S., **Jain P.**, Basu A. Journal of Forensic Pathology 2016, Vol. 1 Issue 1. 1000101
- Dengue virus infection of SK Hep1 cells: inhibition of in-vitro angiogenesis and altered cytomorphology by expressed viral envelope glycoprotein. Basu A., **Jain P.**, Sarkar P., Gangodkar S., Deshpande D., Ganti K., Sheety S., Ghosh K Sheety S., Ghosh K., FEMS Immunol Med Microbiol 2011; 62: 140-147
- Dengue virus- induced autophagosomes and changes in endomembrane ultrastructure imaged by electron tomography and whole- mount grid- cell culture techniques. Gangodkar, S., **Jain, P.**, Dixit, N., Ghosh, K., Basu, A. JEM, 2010, 59 (6): 503-511.
- Dengue 2 virus inhibits in-vitro megakaryocytic colony formation and induces apoptosis in thrombopoietin-inducible megakaryocytic differentiation from Cord blood CD34+ cells. Basu A., **Jain P.**, Gangodkar S., Shetty S., Ghosh K. FEMS Immuno. Med. Microbiol. 2008 Jun; 53(1): 46-51. Epub 2008 Mar 25.



Dr. D.Y. Patil Vidyapeeth's  
**Dr. D. Y. Patil Biotechnology & Bioinformatics Institute** Mumbai-Bangalore  
Express Highway, Tathawade, Pune 411033  
Mail: [info.biotech@dpu.edu.in](mailto:info.biotech@dpu.edu.in), Website: <http://biotech.dpu.edu.in>

---

- Imaging the interaction between Dengue 2 virus and human blood platelets using atomic force and electron microscopy. Ghosh K., Gangodkar S., **Jain P.**, Ramjee S., Podder P., Basu A., JEM, 57(3): 113–118 (2008).
- Genetic analysis of Indian bovine viral diarrhoea virus 1 isolates in N (pro) and entire gene region coding structural proteins, Mishra N, Vilcek S, **Jain P**, Pitale SS, Pradhan HK, Acta Virol 2006; 50(1): 39-44.
- Genetic typing of bovine viral diarrhoea virus isolates from India. Mishra N., Pattnaik B., Vilcek S., Patil S.S., **Jain P.**, Swamy N., Bhatia S., Pradhan H.K., Vet. Microbiol. 104:207-212(2004).
- Multiplex PCR in diagnosis and characterization of bovine viral diarrhoea virus isolates from India, N. Mishra, S. S. Pitale, **P. Jain** and H. K. Pradhan, RESEARCH COMMUNICATIONS, Current Science, Vol. 88, No. 1, 10 January 2005. 162.
- **Abstracts**
- Dengue 2 virus infection-associated vascular endothelial cellular stress response imaged by high-resolution electron and correlative microscopy shows distinct evidence of altered cytoskeleton and vesicular traffic. A. Basu, D.P. Jain 17th International Congress on Infectious Diseases / International Journal of Infectious Diseases 45S (2016) 1–477 Abstract Number: 43.195 Poster Presentation
- A novel hydrogel-based culture of endothelial cells to study the effect of *Dengue* non-structural 1 (NS1) protein in vitro. Jain, P., Gangodkar, S., Basu, A. International Conference on Revolution of Laboratory Medicine in Modern Biology. Feb. 2017. NIIH Poster Presentation



Dr. D.Y. Patil Vidyapeeth's  
**Dr. D. Y. Patil Biotechnology & Bioinformatics Institute** Mumbai-Bangalore  
Express High way, Tathawade, Pune 411033  
**Mail:** info.biotech@dpu.edu.in, **Website:** <http://biotech.dpu.edu.in>

- Preksha Jain, Divija Deshpande, Atanu Basu. Dengue virus inhibits angiogenesis of endothelial cells of hepatic origin. Molecular Virology Forum, Indian Institute of Science, Bangalore, 2011 Poster Presentation

## CONFERENCE/WORKSHOPS

- Participation in the Encephalitis International Conference. Encephalitis International. Dec. 2024.
- Participation in In-situ structural biology: from cryo-EM to multiscale modeling. EMBO. 2023.
- International Conference on Revolution of Laboratory Medicine in Modern Biology. Feb. 2017. NIIH Poster Presentation
- Participated in 1<sup>st</sup> National Workshop on Scanning Probe Microscopy Techniques at CSIR-National Chemical Laboratory, Pune. August 2016
- 17th International Congress on Infectious Diseases / International Journal of Infectious Diseases 45S (2016) 1–477 Abstract Number: 43.195 Poster Presentation
- Online Workshop: Molecular Docking Series: From Fundamentals to Automation and Visualization. 2025
- Biostatistics: A User Perspective. Short-term course certificate. IISER, Pune. 2022
- **National Center for Biological Science, Bangalore, Training in basics of Flow Cytometry, May 2008.**

## • CERTIFICATIONS

- Strategy and Leadership for Senior Professionals (SLSP 08) at IIM Indore. 2025. Ongoing.
- Specialization: Clinical trials: Good Clinical Practice. 2025, Ongoing. Novartis online programme.
- Specialization: Regulatory Compliance. University of Pennsylvania, Online Programme 2025, Ongoing.
- General Course on Intellectual Property, World Intellectual Property Academy. March 2025
- Clinical Trials Operations certification. John Hopkins University. Online Programme. Sep 2024.



Dr. D.Y. Patil Vidyapeeth's

**Dr. D. Y. Patil Biotechnology & Bioinformatics Institute** Mumbai-Bangalore

Express High way, Tathawade, Pune 411033

**Mail:** [info.biotech@dpu.edu.in](mailto:info.biotech@dpu.edu.in), **Website:** <http://biotech.dpu.edu.in>

---

## • **MEMBERSHIP**

---

- Member of the Indian Virological Society
- Member Of Encephalitis International
- Member of the International Congress of Infectious Diseases.
- Member of the Electron Microscopy Society of India
- Member of The Cytometry Society, India.