**Payel Ghosh, Ph.D**

**Assistant Professor**

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**Research Interests**

* Next-Generation sequencing and assembly, Analysis and interpretation of data from high-throughput biological experiments, Comparative genomics, genome variation.
* Computational study on structural aspects on protein-protein or protein-ligand interactions.

**Previous Experience**

**Ph.D:** Indian Institute of Chemical Biology (CSIR), Kolkata, 2011

**Scientist-B :** Centre for DNA Fingerprinting & Diagnostics (CDFD), Hyderabad, 2011-2013

**DST-INSPIRE Faculty:** Department of Biotechnology, Savitribai Phule Pune University, 2014- May, 2016.

**Research Students:**

**Ms. Priyanka Gawade** (Project Assistant)

**List of Publications**

* Avneesh Kumar Gautam, Yogesh Panse, **Payel Ghosh**, Malik Johid Reza, Jayati Mullick, Arvind Sahu, Mutational analysis of Kaposica reveals that bridging of MG2 and CUB domains of target protein is crucial for the cofactor activity of RCA proteins, **PNAS** (2015), vol. 112, no. 41, 12794–12799.
* Atoshi Banerjee, Ronald Benjamin, Kannan Balakrishnan, **Payel Ghosh**, Sharmistha Banerjee, Human protein Staufen-2 promotes HIV-1 proliferation by positively regulating RNA export activity of viral protein Rev, **Retrovirology** **(2014)**, 11:18.
* **Payel Ghosh,** Manish C. Bagchi, Anti-tubercular drug designing by structure based screening of combinatorial libraries, **Journal of molecular modeling (2011),** vol-17 (7), pp.-1607-1620.
* **Payel Ghosh,** Manish C. Bagchi, QSAR Modeling for Quinoxaline Derivatives using Genetic Algorithm and Simulated Annealing based Feature Selection, ***Current Medicinal Chemistry* (2009),** vol-16, No-30Pp. 4032-4048.
* **Payel Ghosh,** Manish C. Bagchi, Comparative QSAR studies of Nitrofuranyl Amide Derivatives using Theoretical Structural properties, ***Molecular Simulation* (2009), v**ol- 35, No.- 14, Pp.- 1185–1200.
* **Payel Ghosh,** Marjan Vracko, Asis Kumar Chattopadhyay, Manish C. Bagchi “On Application of Constitutional Descriptors for Merging of Quinoxaline Data Sets using Linear Statistical Methods” Published in ***Chemical Biology & Drug Design* (2008),** 72, 155–162**.**
* **Payel Ghosh,** Megha Thanadath, Manish C. Bagchi “On an aspect of calculated molecular descriptors in QSAR studies of quinolone antibacterials” published in ***Molecular Diversity* (2006)**, 10(3), pp 415-27.
* Anirban Dutta, Shashi Kr.Singh, **Payel Ghosh,** Runni Mukherjee, Sayak Mitter, Debashis Bandyopadhyay “*In Silico* identification of potential therapeutic targets in the human pathogen *Helicobacter pylori”*, published in ***In Silico Biology (*2006),** vol. 6 (1-2), pp 43 – 47**.**

**Book chapters:**

* Manish C Bagchi, **Payel Ghosh,** ANTI-TUBERCULAR DRUG DESIGNING USING STRUCTURAL DESCRIPTORS, as a ebook chapter edited by Subash C. Basak, Guillermo Restrepo & Jose L. Villaveces in the book entitled **“Advances in Mathematical Chemistry and Applications”** Vol. 2, 2014, 179-190*.*
* Shekhar C Mande, Ashwani Kumar, **Payel Ghosh,** Analysis of Dihedral Angle Variability in Related Protein Structures, as a book chapter edited by Bansal & Srinivasan in the book entitled **“Biomolecular Forms and Functions” on the** Celebration of 50 years of the Ramachandran Map, 2013.

**Publications in conference proceedings:**

* Payel Ghosh, Gaurav Gunjal “Understanding the role of H-NS protein in gene regulation from high throughput data in *Escherichia coli*” in an International Conference on "MCB75: from Molecules to Organisms" held at the Indian Institute of Science from December 11-15, 2015.
* Gaurav Gunjal, Payel Ghosh, “Understanding rho-independent transcription termination process in *E. coli* by high-throughput data analysis” in an International Conference on "Bacterial Expressions II" held at the National Centre for Biological Sciences from December 1-5, 2015.
* Payel Ghosh, Debashree Basu, Shubhada R Hegde, Shekhar C Mande, “Study of DNA Binding Proteins in E. coli and their role in organization of nucleoid structure” organized by Department of Bioengineering and Bioinformatics of MV Lomonosov Moscow State University, Moscow, Russia on July, 2011.
* Payel Ghosh, Manish C. Bagchi, “Usefulness and Applications of Structural Descriptors in QSAR of Quinoxaline Derivatives” at “Fourth Indo-US lecture series/workshop on Discrete Mathematical Chemistry, Biology and Physics” organized by University of Minnesota (Duluth) at Osmania University, Hyderabad, during January 6-10, 2009.
* Payel Ghosh, Manish C. Bagchi, “QSAR of Nitrofuranyl Amides Utilizing Calculated Molecular Descriptors: Statistical and Neural Network Approach” at the “International Conference the Interface of Chemistry- Biology in Biomedical Research” organized by the Indian Society of Chemists and Biologists (ISCB) at Birla Institute of Technology and Science, Pilani during February 22-24, 2008.
* Payel Ghosh, Manish C. Bagchi, “Prediction of Glass Transition Temperature of Polymers using Theoretical Structural Properties” at “Young Scientists colloquium 2008” organized by Materials Research Society of India (MRSI)-Kolkata Chapter on 25th July, 2008.
* Payel Ghosh, Manish C. Bagchi, “Usefulness of Theoretical Molecular Descriptors in Qsar Studies of Nitrofuranyl Amides as Novel Anti-Tuberculosis Agents” at "International Conference on Chemoinformatics" organized by National Chemical Laboratory (CSIR), Pune, during 22-24th January, 2007.