

Curriculum Vitae

Rajeev Mishra,

Assistant Professor in Bioinformatics

Mahila Maha Vidyalaya, Banaras Hindu University.

(Joining date: 11.11.2005 onwards, Employee No. 17473)



Teaching Experience: Involved in teaching (more than nine years) to M.Sc Bioinformatics students at MMV, BHU. Also teach a paper related to Bioinformatics to PhD students registered in BHU and the students of M.Sc in molecular Human genetics, BHU

Area of Specialization: Structural Bioinformatics study of GTP binding proteins. Residue–residue interaction Network analysis of crystals structures of P-loop NTPases.

Areas of Research Interest: Insilico approaches to drug target identification and drug design. Pathway analysis of neurodegenerative diseases. Bioinformatics analysis of Large non-coding RNA. Protein-protein interactions.

Projects Undertaken as PI/CoPI : Co-PI in a Department of Biotechnology, New Delhi supported project on Understanding systems biology of a rhizobacterium *Azospirillum brasilense* by in silico and in vivo study of the cascades and networks of sigma factors, anti-sigma factors and anti-anti-sigma factors. (2011 onwards: Rs 31 lakhs).

PhD Thesis Supervision: Supervised One PhD Student (thesis submitted in 2014)

Academic Qualification:

- **PhD in Bioinformatics** from Jawaharlal Nehru University, New Delhi
- Advance P.G. Diploma (equiv. to M.Phil) in Bioinformatics from Jawaharlal Nehru University, New Delhi
- MSc in Biotechnology, Goa University, GOA

Awards Recognitions:

- CSIR- UGC Senior Research Fellowship (2004 -2005)
- CSIR- UGC Junior Research Fellowship (2002-2004)
- Qualified the CSIR-UGC JRF, National Eligibility Test held on July 1, 2001.
- Research Fellowship by Central Drug Research Institute for the PhD program for period of two years.
- Studentship awarded by Department of Biotechnology, Government of India during M. Sc. Biotechnology course for a period of two years.

Guidance to Postgraduate (M.Sc) Dissertation:

- (M Sc Bioinformatics, 2005-2006) – 08 Dissertation thesis
- (M Sc Bioinformatics, 2006-2007) – 05 Dissertation thesis
- (M Sc Bioinformatics, 2007-2008) – 06 Dissertation thesis
- (M Sc Bioinformatics, 2008-2009) – 08 Dissertation thesis
- (M Sc Bioinformatics, 2009-2010) – 08 Dissertation thesis
- (M Sc Bioinformatics, 2010-2011) – 08 Dissertation thesis
- (M Sc Bioinformatics, 2011-2012) – 05 Dissertation thesis
- (M Sc Bioinformatics, 2012-2013) – 05 Dissertation thesis
- (M Sc Bioinformatics, 2013-2014) – 12 Dissertation thesis

Publications:

1. "Biochemical and bioinformatic characterization of a phosphodiesterase from coalbed metagenome reveals a new Class of phosphodiesterases" Durgesh Narain Singh, Ankush Gupta, Vijay Shankar Singh, **Rajeev Mishra** and Anil Kumar Tripathi
(**PLOS ONE** | DOI:10.1371/journal.pone.0118075 February 6, 2015)
2. "Cross-talk between cognate and non-cognate RpoE sigma factors and Zn²⁺-binding anti-sigma factors regulates photooxidative stress response in *Azospirillum brasilense*." Gupta, Namrata, Ankush Gupta, Santosh Kumar, **Rajeev Mishra**, Chhaya Singh, and Anil Kumar Tripathi. *Antioxidants & redox signaling* 2014 Jan 1;20(1):42-59
3. "Role of highly central residues of P-loop and it's flanking region in preserving the archetypal conformation of Walker A motif of diverse P-loop NTPases." Pathak, Ekta, Neelam Atri, and **Rajeev Mishra**. *Bioinformation* 2013 Jan 9.1: 23.
4. "Analysis of GTPases carrying hydrophobic amino acid substitutions in lieu of the catalytic glutamine: implications for GTP hydrolysis." **Mishra R**, Gara SK, Mishra S, Prakash B. *Proteins*. 2005 May 1; 59(2):332-8
5. "Cloning, expression, and characterization of recombinant nitric oxide synthase-like protein from *Bacillus anthracis*" Shuchi Midha , **Rajeev Mishra** , Mohd. Azhar Aziz, Meenakshi Sharma, and Rakesh Bhatnagar. *Biochemical and Biophysical Research Communications*. 2005 Oct; 336 (1): 346-356
6. "Xylanases of marine fungi of potential use for biobleaching of paper pulp." Raghukumar C, Muraleedharan U, Gaud VR, **Mishra R**. *J Ind Microbiol Biotechnol*. 2004 Oct;31(9):433-41

Research papers published in Proceedings

1. What is the Systems Biology Approach?" Page 1-8, R Ramaswamy and **R Mishra**. **Proceedings of the National Seminar** on "Bioinformatics and Computational Biology", 22-24 March, 2006. MMV, Banaras Hindu University
2. Paper titled "Network analysis of Ras superfamily proteins structures" **National conference** on frontiers of research and development in computational sciences [FRDCS-2012], **March 25-26, 2012**, Organized by Dept. of computer science and applications, Mahatama Gandhi Kashi Vidyapeeth, Varanasi, **Sponsored by UGC**.
3. Paper titled "Computational Identification of Coevolving residues of the H-Ras GTP binding proteins" **National conference** on frontiers of research and development in computational sciences [FRDCS-2012], **March 25-26, 2012**, Organized by Dept. of computer science and applications, Mahatama Gandhi Kashi Vidyapeeth, Varanasi, **Sponsored by UGC**.

Papers published/ presented in Conference, Seminars, Workshops, Symposia (Oral/Poster):

1. Abstract titled “In silico comparative analysis of effect of synthetic & natural products on HSV-1, thymidine kinase” **National Symposium** on “Emerging trends in Plant Sciences” , **March 3-4, 2011**, Centre of Advance Study, Department of Botany, **Banaras Hindu University**
2. Paper titled “The Empowerment and Gender equality are intertwined but not co-terminus” **National Seminar** on “Mahatma’s Vision and Challenges of the Millennium Development Goals”, **March 1-2, 2011** Mahila Mahavidyalaya, **Banaras Hindu University**
3. Paper titled “Basic Concepts and Practical Issues of Biological Sequence Comparison” in workshop manual of BHU-DBT-ISLS workshop-2011 on “Practical training course on Bioinformatics and Proteomics” , **February 20-26, 2011**, organized by BHU-DBT-Interdisciplinary School of Life Sciences & Centre for Bioinformatics-School of Biotechnology **Banaras Hindu University**
4. Paper titled “Understanding of Protein Structure Data, Visualization and In silico Construction of Protein Structure” in workshop manual of BHU-DBT-ISLS workshop-2011 on “Practical training course on Bioinformatics and Proteomics” , **February 20-26, 2011**, organized by BHU-DBT-Interdisciplinary School of Life Sciences & Centre for Bioinformatics-School of Biotechnology **Banaras Hindu University**
5. Paper titled “A study of communication between the residues within the protein structure and its implication in function” **International Conference** on “Recent Advances in Bioinformatics”, **September 2010. KIIT, Bhubaneswar, Orissa.**
6. Abstract titled “Shaking Hands: Network Hubs in Protein Structure and Drug Design” **National Seminar** and workshop on “**Metabolic Network and Drug Design**”, **28-30 November, 2008** MMV, Banaras Hindu University
7. Poster presentation “ Analysis of GTPases with functional innovations in the catalytic machinery: implications for drug design” **National Seminar** and workshop on “Bioinformatics and Computational Biology”, **22-24 March, 2006. MMV, Banaras Hindu University**

Organization of Conference/ Seminar/ Workshop:

1. **Jt. Organizing Secretary** in BHU-DBT-ISLS workshop-2011 on “Practical training course on Bioinformatics and Proteomics” held on **February 20-26, 2011**, organized by BHU-DBT-Interdisciplinary School of Life Sciences & Centre for Bioinformatics-School of Biotechnology Banaras Hindu University, Varanasi, India
2. **Organizing committee member** in **National Seminar** on “Mahatma’s Vision and Challenges of the Millennium Development Goals”, **March 1-2, 2011** Mahila Mahavidyalaya, **Banaras Hindu University**
3. **Organizing Secretary** in **National Seminar** on: “Bioinformatics: Approaches & Applications in Bioscience” held on 05-06 March, **2009** at MMV, **Banaras Hindu University.**

4. **Academic Programme committee member** in the **National Seminar** on: “Bioinformatics: Approaches & Applications in Bioscience” held on 05-06 March, **2009** at MMV, **Banaras Hindu University**.
5. **Jt. Organizing Secretary** in **National Symposium** on Recent Advances in Toxicological studies: Molecular and physiological aspects, held on 27-28 **February, 2008** at MMV, **Banaras Hindu University**.
6. **Jt. Organizing Secretary** in **Symposium and Workshop** on “Statistical Methods in Computational Biology” held on **December, 28-29 2007** at MMV, **Banaras Hindu University**.
7. **Organizing committee member** for the “National Seminar and Workshop on Computational Biology and Bioinformatics” held on **22-24 March, 2006** at MMV, **Banaras Hindu University**.

Resource Person /Participation in Conference/ Seminar/ Workshop:

1. **Resource Person** in National Symposium and Workshop on “Molecular and Ayurvedic Biology of Inflammation” held on **February 07-09, 2014**, organized by Molecular Biology Unit, Institute of Medical Sciences, Banaras Hindu University
2. **Resource Person** in Training workshop on Interface Between Natural Sciences and Biosciences, **March 25-26, 2012**, Conducted by Dept of Physics and Bioinformatics, MMV, Banaras Hindu University.
3. **Resource Person** in BHU-DBT-ISLS workshop-2011 on “Practical training course on Bioinformatics and Proteomics” held on **February 20-26, 2011**, organized by BHU-DBT-Interdisciplinary School of Life Sciences & Centre for Bioinformatics-School of Biotechnology Banaras Hindu University
4. **Resource Person** in BHU-DBT-ISLS workshop-2011 on “Practical training course on Bioinformatics and Proteomics” held on **February 20-26, 2011**, organized by BHU-DBT-Interdisciplinary School of Life Sciences & Centre for Bioinformatics-School of Biotechnology Banaras Hindu University
5. **Resource person in workshop** on “Applications of Bioinformatics and Proteomics techniques in Neurobiology” held on 07-21 September, **2009** at Dept of Zoology, Banaras Hindu University.
6. **Resource person in workshop session (Convener)** at National Seminar and Workshop “Metabolic Networks and Drug Design”, **November 28-30, 2008** Mahila MahaVidyalaya, BHU
7. **Resource person in workshop session** at **National Seminar and Workshop** on “Statistical Methods in Computational Biology” held on **December, 28-29 2007** at MMV, **Banaras Hindu University**.
8. **Resource person in workshop session** at “National Seminar and Workshop on Computational Biology and Bioinformatics” held on 22-24 March, 2006 at MMV, Banaras Hindu University.
9. Participated in a **National seminar** on Bioinformatics: Approaches & applications in Biosciences, March 5-6 2009, MMV, BHU
10. Participated in a **Workshop in Python Programming: Bioinformatics Applications** 3-5 May, 2010 at MMV, BHU
11. Participated in an **International conferences** on New Trends in Life testing, Bayesian Inference and computer Applications, **Jan 5-8, 2011**, Dept. of Statistics, **Banaras Hindu University**
12. Participated in a National Seminar on “The Relevance of Gandhi and His Timeless Legacy, 20-21, March 2012, Organized by MMV, **Banaras Hindu University**