Curriculum Vitae

Reema Chaudhary
Ph. D.
Bhabha Atomic Research Center-
Homi Bhabha National Institute,
Anushaktinagar, Mumbai, India

Date of Birth: April 22, 1991

Nationality: Indian
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EDUCATIONAL QUALIFICATIONS

Degree	Institute/Board	Year	Percentage
Ph. D. (Life Sciences)	Bhabha Atomic Research Centre / Homi Bhabha National Institute	2015-2022	--
M. Phil (Zoology)	Department of Zoology, University of Delhi	2013-2015	72 %
Master in Sciences (M.Sc.) Zoology	Miranda House, University of Delhi	2011-2013	72.20 %
Bachelor of Sciences (B.Sc.) Zoology	Miranda House, University of Delhi	2008-2011	73.45 %
Intermediate	CBSE	2008	78.4 %
High School	CBSE	2006	85 %

RESEARCH PROJECT

Ph.D. project (2015-2022)
Thesis Title: Molecular studies on cell division regulation in *Deinococcus radiodurans* R1

Ph.D. Guide: Dr H. S. Misra, SO/H, Molecular Biology Division, BARC, Mumbai - 400085

Publications

A. Publications from thesis work:

1. **Chaudhary R**, Kota S, & Misra HS. 2021. DivIVA regulates its expression and the orientation of new septum growth in Deinococcus radiodurans. J. Bacteriol. 203(5): e00163-21.
2. **Chaudhary R**, Mishra S, Kota S & Misra HS. 2021. Molecular interactions and their predictive roles in cell pole determination in bacteria. Crit. Rev. Microbiol. 47(2):141-161. (Review)
3. **Chaudhary R**, Gupta A, Kota S, & Misra HS. 2019. N-terminal domain of DivIVA contributes to its dimerization and interaction with genome segregation proteins in a radioresistant bacterium Deinococcus radiodurans. Int. J. Biol. Macromol. 128:12-21
4. Misra HS, Maurya GK, **Chaudhary R**, & Misra CS. 2018. Interdependence of bacterial cell division and genome segregation and its potential in drug development. Microbiol. Res. 208:12-24. (Review)

B. Under preparation

1. **Reema Chaudhary** et al., (2021) Phosphorylation of Serine residues in deinococcal FtsZ affect its GTPase activity and polymerization dynamics.
2. **Reema Chaudhary** et al., (2021) Phosphorylation of Threonine in DivIVA affects its functions during cell cycle in Deinococcus radiodurans.

C. Publications from collaborative contributions

1. Mishra S, Kota S, **Chaudhary R** & Misra HS. 2021. Guanine quadruplexes and their roles in molecular processes. Crit. Rev. Biochem. Mol. Biol. 56(5):482-499.
2. Maurya GK, **Chaudhary R**, Pandey N & Misra HS. 2021. Molecular insights into replication initiation in a multipartite genome harboring bacterium Deinococcus radiodurans. J. Biol. Chem. 296:100451.
3. Kota S, **Chaudhary R**, Mishra S & Misra HS. 2021. Topoisomerase IB interacts with genome segregation proteins and is involved in multipartite genome maintenance in Deinococcus radiodurans. Microbiol. Res. 242:126609.
4. Mishra S, **Chaudhary R**, Singh S, Kota S & Misra HS. 2019. Guanine Quadruplex DNA regulates Gamma Radiation Response of Genome Functions in the Radioresistant Bacterium Deinococcus radiodurans. J. Bacteriol. 201:e00154-19.
5. Maurya GK, Modi K, Banerjee M, **Chaudhary R**, Rajpurohit YS & Misra HS. 2018. Phosphorylation of FtsZ and FtsA by a DNA Damage-Responsive Ser/Thr Protein Kinase Affects Their Functional Interactions in Deinococcus radiodurans. mSphere. 3(4):pp.e00325-18.

National and international symposia/seminars/conferences

1. International Conference on 'Trends in Biochemical and Biomedical Research: Advances and Challenges'. Department of Biochemistry, Institute of Science, BHU, Varanasi-221005 Uttar-Pradesh, India. February 13-15, 2018 (Poster No 122)

(Best Scientific Presentation Award)

2. 87th Annual Conference of Society of Biological Chemists (India): 'Genome Biology in Health and Disease'. School of Life sciences, Manipal Academy of Higher Education, Manipal. November 25-27, 2018 (Poster No 84)
3. 10th DAE-BRNS Life Sciences Symposium-2019 (LSS-2019): 'Molecular and Cellular Responses to Stresses and Cancer Therapeutics. Bhabha Atomic Research Centre, Mumbai-400085 (Poster-07)

(Best Poster Presentation Award)

4. 19th EMBO Workshop: Bacterial Cell Division: Closing the gap, Sweden. June 9-12, 2019.
5. 88th Annual Conference of Society of Biological Chemists (India): 'Advances at the Interface of Biology and Chemistry'. Bhabha Atomic Research Centre, Mumbai-400085. November 1-3, 2019.

(Best Poster Presentation Award)

Published Chapters in Books

1. Title 'Diathesis Stress' in Book 'Encyclopedia of Animal Cognition and Behavior', Springer International Publishing AG 2017. DOI: 10.1007/978-3-319-47829-6_53-1
2. Title 'Major Histocompatibility Complex' in Book 'Encyclopedia of Animal Cognition and Behavior', Springer Nature Switzerland AG 2019. DOI: 10.1007/978-3-319-47829-6_551-1
3. Title 'Adrenalin' in Book 'Encyclopedia of Animal Cognition and Behavior', Springer Nature Switzerland AG 2019. DOI: 10.1007/978-3-319-47829-6_1439-1
4. Title 'Restriction Fragment Length Polymorphism' in Book 'Encyclopedia of Animal Cognition and Behavior', Springer Nature Switzerland AG 2019. DOI: 10.1007/978-3-319-47829-6_175-1

M.Phil Dissertation project

Thesis Title: "Effect of Estradiol-17β on Apoptosis and Gene (*vg)* Expression in the Indian Freshwater Murrel, *Channa punctatus* (Bloch)

I did project under guidance of Prof. Neeta Sehgal, Department of Zoology, University of Delhi, India. In this work, I studied the toxicological effect of estradiol-**17β** on a fresh water murrel (male) *Channa punctatus*.

RESEARCH SKILLS

I have research skills in isolation of bacterial DNA and RNA; gene cloning, expression and purification of proteins using recombinant DNA technology from bacteria; Autoradiography, SDS PAGE, NATIVE PAGE.

I am capable in maintenance of bacterial strains, growth curve and survival study of different mutants of *D. radiodurans*, Bacterial Two-Hybrid assay, DNA-protein interaction study, protein-protein interaction study, Western blotting, enzymatic assays, protein phosphorylation study.

Molecular Biology

Isolation of bacterial DNA and RNA; gene cloning, expression and purification of proteins using recombinant DNA technology from bacteria, Autoradiography, SDS PAGE, NATIVE PAGE.

Molecular genetics

Knock out mutant generation in *D. radiodurans*. Integration of *divIVA-rfp* in genome of *D. radiodurans*.

Microbiology

Maintenance of bacterial strains, growth curve and survival study of different mutants of *D. radiodurans* in response to radiation, Bacterial Two-Hybrid assay.

Biochemistry

Protein-protein interaction study, Western blotting, enzymatic assays, protein phosphorylation study.

Cell Biology

Cell morphology study, Cellular localization of fluorescent tagged proteins in cell using fluorescence microscopy.

Biophysical and analytical methods

Transmission Electron Microscopy (TEM), Chromatography (TLC), affinity, anion-exchange, gel filtration, FPLC), Real Time PCR, Circular Dichroism (CD), Dynamic light scattering (DLS), MS-MS analysis.

Bioinformatics:

Protein homology modeling and molecular docking, Protein sequence analyses (similarity, domains): BLAST, ClustalW, InterProScan, PFAM, Prot Param.

Animal study

Maintenance of fish, toxicological study, tissue and blood collection, tissue sectioning and histology.

Awards and fellowships

- Awarded **Best Scientific Presentation award** during International Conference on 'Trends in Biochemical and Biomedical Research: Advances and Challenges'.

Department of Biochemistry, Institute of Science, BHU, Varanasi-221005 Uttar-Pradesh, India. February 13-15, 2018 (Poster No 122)

- Awarded **Best Poster Presentation award** during 10th DAE-BRNS Life Sciences Symposium-2019 (LSS-2019)) held at BARC, Mumbai, 2019.
- Awarded **Best Poster Presentation award** during 88th Annual Conference of Society of Biological Chemists (India) held at BARC, Mumbai, 2019.
- Qualified **UGC-JRF** in June -2015 (AIR - **81 Rank**)
- Awarded **DAE-JRF** in July 2015
- Qualified **ICMR-JRF** in July 2015.
- Qualified Graduate Aptitude Test in Engineering (GATE): Life sciences in the year 2013

EXTRA-CURRICURRAL ACTIVITIES

- Actively participated as volunteer in "Guha Research Conference 2016" held at Diu, India
- Actively participated in general science poster presentation during annual fest at Department of Zoology, University of Delhi

  (Got Ist and IIIrd prize in 2013, 2014 respectively)
- Actively participated in various academic events held at Miranda House, University of Delhi.

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