

Curriculum Vitae

1. **Name:** RAGINI SINHA
2. **Orcid ID:** 0000 0002 3414 3857
3. **Husband's Name:** Mr. Nishant
4. **Postal Address:** 9/D Dutta Villa Compound, New Area,
Morabadi, Ranchi, Jharkhand, 834008
5. **Email:** ragini150983@gmail.com
6. **Contact:** 8084464002
7. **Permanent Address:** C/o. Nishant: 9/D Dutta Villa Compound, New Area,
Morabadi, Ranchi, Jharkhand, 834008
8. **Date of Birth:** 15 September 1983
9. **Category:** General
10. **Gender:** Female
11. **Marital Status:** Married
12. **Educational Qualifications:**

Sl. No.	Degree	Year	Board /University	Subject	Marks / Division / GPA
1	Matric	1999	D.A.V Jawahar Vidya Mandir, Shyamali; CBSE	Hindi, English, Maths, Social Studies, Science	82.2% 1 st
2	Higher Secondary	2001	D.A.V Jawahar Vidya Mandir, Shyamali; CBSE	English, Physics, Chemistry, Maths, Biology	85.2% 1 st
3	B.Sc	2004	Ranchi University	Biotechnology (H), Botany (S), Chemistry (S)	75.6% 1 st
4	M.Sc	2008	Birsa Agriculture University	Biotechnology	8.773 (GPA) 1 st
5	Ph.D	2015	University of Calcutta	Science: Plant Biotechnology	

13. **PhD thesis topic:** Generation and proteomic profiling of transgenic *Mentha arvensis* over-expressing glutathione biosynthesis pathway gene/s and comparative proteomic profiling of *Arabidopsis* under altered glutathione conditions.

Name of Supervisor: Dr. Sharmila Chattopadhyay, Principle Scientist; Plant Biotechnology Lab., CSIR-Indian Institute of Chemical Biology, Kolkata

14. **M.Sc thesis topic:** The proteomic analysis of rice under various regimes of stress

and recovery during submergence.

Name of Supervisor: Dr. Himanshu Dubey., Junior Scientist-assistant professor, College of Biotechnology, BAU, Ranchi.

15. Awards received:

- M.Sc Topper University Gold Medal
- GATE (2008-10); Percentile- 96.99
- CSIR (NET) JRF, Dec, 2007
- Project Grant, SERB- NPDF; DST-India (2016-2018)
- Project Grant, DST-WoSA; DST-India (March 2019- May 2019)
- Project Grant, DBT-BioCARE; DBT, India (June 2019-ongoing)

16. Professional employment:

Sl. No.	Job type	Tenure	Nature of job
1.	Guest Faculty, Gossner College (Ranchi University), Department of Biotechnology	Oct 2013- April 2014	Teaching (adhoc)
2.	National Post Doctoral Fellowship, Funding agency: SERB, DST, New Delhi. Topic: Screening of various lentil (<i>Lens culinaris</i>) genotypes for drought tolerance using physiological and molecular approaches. Mentor: Dr. Anil Kumar Singh, Sr. Scientist, ICAR-Indian Institute of Agricultural Biotechnology, Namkum Ranchi. Project Cost: 19.6 Lakhs. At: ICAR-Indian Institute of Agricultural Biotechnology	11 th July 2016- 10 th July 2018	Research (adhoc)
3.	Assistant Professor (Temporary) Central University of Jharkhand	2 nd August 2018- 22 nd March 2019	Teaching (Temporary)
4.	DST Scientist, WOS-A At: ICAR-Indian Institute of Agricultural Biotechnology Topic: Quantitative Proteomics and Phospho-proteomics to Understand Drought Stress Perception and Response in Contrasting genotypes of Horsegram (<i>Macrotyloma uniflorum</i>) Mentor: Dr. Anil Kumar Singh, Sr. Scientist, ICAR-Indian Institute	23 rd March- 31 st May	Research (adhoc)

	of Agricultural Biotechnology, Namkum Ranchi. Project Cost: 30 Lakhs.		
5.	DBT Scientist-I, BioCARE At: ICAR-Indian Institute of Agricultural Biotechnology Topic: Quantitative Proteomics and Phospho-proteomics to Understand Drought Stress Perception and Response in lentil genotypes (<i>Lens culinaris</i>) Mentor: Dr. Anil Kumar Singh, Sr. Scientist, ICAR-Indian Institute of Agricultural Biotechnology, Namkum Ranchi. Project Cost: 57 Lakhs.	1 st June 2019- ongoing	Research (adhoc)

17. Courses undertaken at CUJ, Ranchi

- LS131020: Bioinformatics (3+0+0)
- LS132070: Bioinformatics and Structural Biology Lab (0+0+2)
- BIO 411031: Bioinformatics (3+0+0)
- BIO 412080: Bioinformatics lab (0+0+2)
- BIO321050: Plant Developmental Biology (3+0+0)

18. Other Recognitions:

- Resource person: WorkShop in Life Sciences, DLS, Central University of Jharkhand, Sponsored by DBT, India (21st-25th Jan 2019)
- Best Presenter: Lightning talks, India EMBO Symposium, Sensing and Signalling in plant stress response, 15th-17th April, 2019, New Delhi, India.

19. Invited Reviewer of International Journals

- PLoS One
- Journal of Horticultural Science and Biotechnology

20. Publications:

1. **Sinha, R.**, Sharma, T.R., Singh, A.K. (2019) Validation of reference genes for qRT-PCR data normalisation in lentil (*Lens culinaris*) under leaf developmental stages and abiotic stresses. *Physiol Mol Biol Plants*. 25(1), 123-134. <https://doi.org/10.1007/s12298-018-0609-1>
2. **Sinha, R.**, Pal, A.K., Singh, A. K. (2018). Physiological, biochemical and molecular responses of Lentil (*Lens culinaris*) genotypes under drought stress. *Indian J Plant Physiol*. 23(4), 772-784. 10.1007/s40502-018-0411-7
3. **Sinha R**, Kumar D, Datta R, Hazra S, Bhattacharyya D, Majumdar AB, Mukhopadhyay R, Sultana A, Chattopadhyay S (2015) Integrated transcriptomics and proteomic analysis of *Arabidopsis thaliana* exposed to

- glutathione unravels its role in plant defense. *Plant Cell Tissue Organ Cult* 120 (3), 975-988.
4. **Sinha R**, Bhattacharyya D, Majumdar AB, Datta R, Hazra S, Chattopadhyay S (2013) Leaf proteome profiling of transgenic mint infected with *Alternaria alternata*. *J Proteomics* 93: 117-132.
 5. **Sinha R**, Chattopadhyay S (2011) Changes in the leaf proteome profile of *Mentha arvensis* in response to *Alternaria alternata* infection. *J Proteomics* 74:327-336.
 6. Ghanta S, Datta R, Bhattacharyya D, **Sinha R**, Kumar D, Hazra S, Majumdar AB, Chattopadhyay S (2014) Multistep involvement of glutathione with salicylic acid and ethylene to combat environmental stress. *J Plant Physiol* 171(11), 240-250.
 7. Bhattacharyya D, **Sinha R**, Hazra S, Datta R, Chattopadhyay S (2014) *De novo* transcriptome analysis using 454 pyrosequencing of the Himalayan Mayapple, *Podophyllum hexandrum*. *BMC Genomics* 14: 748
 8. Kumar D, Datta R, **Sinha R**, Ghosh A, Chattopadhyay S (2014) Proteomic Profiling of γ ECS overexpressed transgenic *Nicotiana* in response to drought stress. *Plant Sign Behav* 9:e29246
 9. Datta R, **Sinha R**, Chattopadhyay S (2013) Changes in leaf proteome profile of *Arabidopsis thaliana* in response to salicylic acid. *J Biosciences* 38, 1-12.
 10. Bhattacharyya D, **Sinha R**, Ghanta S, Chakraborty A, Hazra S, Chattopadhyay S (2012). Proteins differentially expressed in elicited cell suspension culture of *Podophyllum hexandrum* with enhanced Podophyllotoxin content. *Proteome Science*, 10:34
 11. Ghanta S, Bhattacharyya D, **Sinha R**, Banerjee A, Chattopadhyay S (2011) *Nicotiana tabacum* overexpressing γ -ECS exhibits biotic stress tolerance likely through NPR1-dependent salicylic acid-mediated pathway. *Planta* 233:895-910

Book Chapter

1. Goel P, Bhuria M, **Sinha R**, Sharma TR, Singh AK (2019) Promising transcription factors for salt and drought tolerance in plants. In: *Molecular Approaches in Plant Biology and Environmental Challenges* (Eds: Sudhir P. Singh, Ashutosh Pandey, SK upadhyay), **Springer Publications**. pp. 7-50
2. **Sinha R.**, Bala M., Kumar M., Sharma TR, Singh AK (2020) Method of screening legume crops for abiotic stress tolerance through physiological and biochemical approaches. In: *Methods in Molecular Biology* (Eds: Rohini Garg, Mukesh Jain), Springer Protocol Publications. 2107:277-303. doi: 10.1007/978-1-0716-0235-5_15.
3. Bala M., **Sinha R.**, Mallick A., Sharma TR, Singh AK (2020) Methods of gene expression profiling to understand abiotic stress perception and response in legume crops. In: *Methods in Molecular Biology* (Eds: Rohini Garg, Mukesh Jain), Springer Protocol Publications. 2107:99-126. doi: 10.1007/978-1-0716-0235-5_15.
4. **Sinha R.**, Singh AK, Baudhh K., Sharma, T.R., Sharma P (2020) Phytomining: A sustainable approach for recovery and extraction of valuable metals. In: *Phytoremediation of abandoned mining and oil drilling sites* (Eds: Kuldeep Baudhh, John Korstad, Pallavi Sharma), Elsevier Publications.
5. Tiwari, J., Baudhh K., Chakravorty, P., Sharma, P., **Sinha, R.**, Kumar, M., Prasad, M.N.V (2020) Phytoremediation: A sustainable method for cleaning up

the contaminated sites. In: Phytorestoration of abandoned mining and oil drilling sites (Eds: Kuldeep Baudhh, John Korstad, Pallavi Sharma), Elsevier Publications.

Presentations in National and International Symposium/Conference

Oral presentation

- a) Presented a lightening talk presentation at India Embo symposium, at New Delhi from 15-17th April, 2019.

Poster presentations

- a) Identification of drought responsive genes in *Cicer microphyllum* using high throughput sequencing, Kushboo Gupta, **Ragini Sinha**, Anil Kumar Singh. Interdrought V, Hyderabad, 21-25 Feb 2017.
- b) Proteomic perspective of a compatible host–pathogen interaction: *Mentha arvensis* vs. *Alternaria alternata*, **Ragini Sinha** and Sharmila Chattopadhyay. 81st Annual meeting of the Society of Biological Chemists (India) and Symposium on Chemistry and Biology: Two Weapons against Diseases, Nov 8-11, 2012, Kolkata, India.
- c) Plant–pathogen interaction –Proteomic based evaluation of *Mentha arvensis* under diseased condition, **Ragini Sinha** and Sharmila Chattopadhyay. International Conference on Omics Meets Diseases and IIIrd Annual Meeting of Proteomics Society India, Dec 15-18, 2011, Kolkata, India.
- d) Pudina-fungal interaction-A host’s defense strategy at proteomic level, **Ragini Sinha** and Sharmila Chattopadhyay. 18th State Science & Technology Congress, 28th Feb-1st Mar, 2011, Kolkata, India.
- e) Proteomic profiling of susceptible host *Mentha* infected with *Alternaria alternata* **Ragini Sinha** and Sharmila Chattopadhyay, XXXIV All India Cell Biology Conference and Symposium on Quantitative Biology: From molecules to Cells, Dec 4-6 2010, Kolkata, India.
- f) Evaluation of transgenic *Mentha arvensis* by proteomic approach, **Ragini Sinha**, Mehar Darukhshan and Sharmila Chattopadhyay National symposium on Plant Cell Tissue and Organ Culture: The Present Scenario, Mar 3-5, 2010, Kolkata, India.