

Curriculum Vitae

Dr. Reshma Sinha

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Area of Specialization: Aquatic Toxicology, Fish Biology, Antioxidant Assay, Molecular Biology.

Educational Qualification:

❖ **Ph.D.**

- Awarded Ph.D. degree in 2019 on Research work entitled '**Ameliorative role of dietary supplement of *Emblica officinalis* against malachite green induced cytotoxic and biochemical stress in *Cyprinus carpio communis* L.**' from Panjab University, Chandigarh.
- Completed Master's Dissertation entitled 'rDNA ITS1 and ITS2 sequence-based genotoxicity assessment of Malathion in *Anopheles stephensi*'.

❖ **Essential Qualification:**

- Master in Zoology in 2011 from Panjab University, Chandigarh.
- Graduated in Zoology (Hons.) in 2009 from Panjab University, Chandigarh.

❖ **Additional Qualification:**

- Qualified CSIR-JRF NET with All India -106 rank in 2016.

❖ **Experience:**

- Served as assistant professor in Zoology at Maharaja Agrasen University, Baddi, Himachal Pradesh

- Served as assistant professor in Zoology, School of Biological and Environment Sciences, Shoolini University

❖ Publications:

- Grover, A., Sharma, P., Sharma, R., & **Sinha, R.** (2022). Ultrastructural and molecular approach as a tool for taxonomic identification of aquatic macroinvertebrates: A review. *Heliyon*, 8 (12), e12236. Doi: <https://doi.org/10.1016/j.heliyon.2022.e12236> .
- Grover, A., Kalia, P., **Sinha, R.**, & Garg, P. (2022). Colony collapse disorder: A peril to apiculture. *Journal of Applied and Natural Science*, 14(3), 729-739. DOI: <https://doi.org/10.31018/jans.v14i3.3502>
- Jyoti, D., **Sinha, R.**, & Faggio, C. (2022). Advances in biological methods for the sequestration of heavy metals from water bodies: a review. *Environmental Toxicology and Pharmacology*, 94; 103927. <https://doi.org/10.1016/j.etap.2022.103927>
- Gudeta, K., Bhagat, A., Julka, J.M., **Sinha, R.**, Verma, R., Kumar, A., Kumari, S., Ameen, F., Bhat, S.A., Amarowicz, R., & Sharma, M. (2022). Vermicompost and Its Derivatives against Phytopathogenic Fungi in the Soil: A Review. *Horticulturae* 8, 311. <https://doi.org/10.3390/horticulturae8040311>
- **Sinha, R.**, & Jindal, R. (2022). Oxidative Stress and Toxic-Pathic Branchial Lesions in *Cyprinus carpio* Exposed to Malachite Green. *Bulletin of Environmental Contamination and Toxicology*, 108, 571–578. 10.1007/s00128-021-03415-0
- Hoseini, S. M., **Sinha, R.**, Fazel, A., Khosraviani, K., Delavar, F. H., Arghideh, M., Sedaghat, M., Paolucci, M., Hoseinifar, S. H., & Van Doan, H. (2022). Histopathological damage and stress- and immune-related genes' expression in the intestine of common carp, *Cyprinus carpio* exposed to copper and polyvinyl chloride microparticle. *Journal of Experimental Zoology*, 337, 181– 190. <https://doi.org/10.1002/jez.2555>.
- Grover, A., **Sinha, R.**, Jyoti, D., & Faggio, C. (2022). Imperative role of electron microscopy in toxicity assessment: A review. *Microscopy research and technique*, 85(5): 1976-1989. Doi: <https://doi.org/10.1002/jemt.24029>
- **Sinha R.**, Jindal R. & Faggio C. (2021). Protective Effect of *Embllica officinalis* in *Cyprinus carpio* against Hepatotoxicity Induced by Malachite Green: Ultrastructural

and Molecular Analysis. *Applied Sciences*, 11(8): 3507. DOI: <https://doi.org/10.3390/app11083507>.

- **Sinha, R.**, Jindal, R. & Faggio, C. (2021). Nephroprotective effect of *Emblica officinalis* fruit extract against malachite green toxicity in piscine model: Ultrastructure and oxidative stress study. *Microscopy and Research Technique*, 84 (4): 1911-1919. Doi: 10.1002/jemt.23747.
- **Sinha, R.** & Bhinder, P. (2021). Malathion prompted genotoxicity assessment in rDNA ITS1 and ITS 2 sequence of *Anopheles stephensi*. *International Research Journal of Science and Technology*, 2(2):406-412.
- **Sinha, R.** & Jindal, R. (2020). Elucidation of malachite green induced behavioural, biochemical, and histo-architectural defects in *Cyprinus carpio* as piscine model. *Environmental and Sustainability Indicators*, 8: 100055. DOI: <https://doi.org/10.1016/j.indic.2020.100055>.
- **Sinha, R.** & Jindal, R. (2019). Augmenting fish health using *Emblica officinalis* against triarylmethane induced blood toxicity in *Cyprinus carpio*. *Aquaculture Research*, 50 (6): 1644-1650. <https://doi.org/10.1111/are.14044>
- Jindal, R. & **Sinha, R.** (2019). Malachite green induced ultrastructural corneal lesions in *Cyprinus carpio* and its amelioration using *Emblica officinalis*. *Bulletin of Environmental Contamination and Toxicology*, 102(3): 377-384. DOI: 10.1007/s00128-019-02549-6.
- Jindal, R., **Sinha, R.** & Brar, P. (2019). Evaluating the protective efficacy of *Silybum marianum* against deltamethrin induced hepatotoxicity in piscine model. *Environmental Toxicology and Pharmacology*, 66: 62-68. DOI: <https://doi.org/10.1016/j.etap.2018.12.014>
- **Sinha, R.** & Jindal, R. (2018). Efficacy of plant extract, *Emblica officinalis* in remediation of malachite green induced demeanor alterations in *Cyprinus carpio*. *International Journal of Advanced Research*, 6(6): 550-553.
- **Sinha, R.** & Jindal, R. (2018). Malachite green induced acute toxicity in *Cyprinus carpio*. *Journal of Global Biosciences*, 7(2): 5369-5374.

❖ **Chapter in Book :**

Sharma R., Sinha R., Kaur R., Rani S. (2022) Drug-Induced Nephrotoxicity and Use of Biomarkers. In: Patel V.B., Preedy V.R., Rajendram R. (eds) Biomarkers

in Toxicology. Biomarkers in Disease: Methods, Discoveries and Applications.

Springer, Cham. https://doi.org/10.1007/978-3-030-87225-0_50-1

❖ **Research Awards:**

- Awarded Best poster on research paper entitled ‘Malachite green induced ultrastructural alterations in gills of *Cyprinus carpio* in CHASCON, 2018 held at Panjab University, Chandigarh.
- Received Best poster in Punjab Science Congress in 2016 on research paper entitled ‘Study on ocular toxicity of lead nitrate on *Ctenopharyngodon idellus* (Cuvier and Valenciennes) with reference to ultra-structural alterations in lens and cornea’.

❖ **Conferences and Workshops:**

- Attended 5 days faculty development program ' AutoCAD for all' organised by Faculty of engineering and Technology, Shoolini University, Solan from Jan 18-22, 2021.
- Participated in the International Webinar “Recent Progress in Therapeutic Interventions for COVID- 19” by Department of Zoology and Environmental Science, School of Basic and Applied Sciences, Maharaja Agrasen University on 6th June, 2020.
- Completed Coursera course on 'Evidence Based Toxicology' authorized by Johns Hopkins University, 2021.
- Completed Coursera course on 'Fundamentals of Immunology: Innate Immunity and B-Cell Function' authorized by Rice University, 2021.
- Attended the National Webinar on "Overview of Disease Vectors and Integrated Vector Management" organized by Post Graduate Department of Zoology, Dev Samaj College for Women on December 8, 2020.
- Attended the International webinar on Role of Bio-Informatics in Bio-Medical Sciences" organized by Post Graduate Department of Zoology, Dev Samaj College for Women on December 7, 2020.
- Completed 14 days Certification course on ‘Next Generation Sequencing’ conducted by Biotechnika Info Labs Pvt. Ltd. from 23 March- 5 April, 2020.
- Presented research article entitled ‘Ameliorative efficacy of *Emblica officinalis* against malachite green induced hepatotoxicity in *Cyprinus carpio*’ in International

Conference on 'Translational research in Life sciences' held at CIL, Panjab University, Chandigarh from 5-7 July, 2018.

- Research paper entitled 'Impaired renal architecture on exposure to triarylmethane dyes in *Cyprinus carpio*' was presented in conference on 'Bridging the Gap- Biodiversity and Human Health (ZOOCON, 2018)', Panjab University, Chandigarh from 21-22 March, 2018.
- Presented oral poster in National conference on 'Strategies to mitigate the effects of climate change: steps towards sustainable development' on topic entitled 'Dyes: an emerging aquatic pollutant' held at Maharaja Agrasen University, Baddi (H.P.) from 8-9 December, 2017.
- Poster was presented in National Conference (ZOOCON, 2017) on 'Leveraging biodiversity for translational therapeutic research' on research topic entitled '*Embllica officinalis*- a perspective ameliorant in malachite green induced toxicity in *Cyprinus carpio*' held at Department of Zoology, Panjab University from 17-18 March, 2016.
- Research paper was presented entitled 'Physiological alterations induced in *Cyprinus carpio* on exposure to Malachite green' in CHASCON, 2016, held at Panjab University, Chandigarh.
- Attended 7 days workshop on SPSS, held at department of Statistics, Panjab University, Chandigarh in 2016.
- Poster presentation was made at 101st ISCA, held at Mysore in 2016 on topic entitled 'Ultrastructural alterations in the gill of *C. carpio* on exposure to the dye'.