

## Martina Rani

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Mrs. Martina Rani is a researcher in environmental science, utilizing various techniques in Agriculture, Air pollution, & Climate Change, as well as other related areas. Mrs. Rani has approximately 6 years of experience in the central government. organizations, such as the Indian Council of Agricultural Research (ICAR) and the Council of Scientific and Industrial Research (CSIR). She worked as a Senior Research Fellow (SRF) at ICAR-CSSRI, Karnal, Haryana, from 2015 to 2017. She has also worked as a Junior Research Fellow (JRF) and Senior Research Fellow (SRF) at CSIR-NPL, New Delhi.

### **Work Experience**

*Ph.D. Research Scholar- Council of Scientific & Industrial Research- National Physical Laboratory (CSIR-NPL), New Delhi*

*Research Scholar- Academy of Scientific & Innovative Research (AcSIR)*

*Research Scholar – Central Soil Salinity Research Institute (ICAR)-CSSRI*

### **Professional Qualification**

*Ph.D.- Environmental Science*

*M.Sc.- Environmental Science (2013-2015)*

*B. Tech – Bio-Technology (2007-2011)*

### **Projects Experienced**

Sr. No.	Date	Project	Organization
1)	May 2021 – May 2022	“Carbonaceous Aerosol emission, source apportionment, and climate effect”	Council of Scientific Industrial Research (CSIR-NPL), New Delhi, India.
2)	May 2020 – May 2021	“Carbonaceous Aerosol emission, source apportionment, and climate effect”	Council of Scientific Industrial Research (CSIR-NPL), New Delhi, India.
3)	May 2018 – May 2020	“Carbonaceous Aerosol emission, source apportionment, and climate effect”	Council of Scientific Industrial Research (CSIR-NPL), New Delhi, India.
4)	October 2015 – January 2017	Agro CRP project on “Productive Utilization of Salt Affected Soil through Conservation Agriculture”	ICAR-Central Soil Salinity Research Institute, Karnal, Haryana, India.

## Training and workshop

1.	Training Course with the “Centre for Ecology and Hydrology ALPHA® and DELTA® Systems. “The UK’s Centre of Excellence for integrated research in terrestrial and freshwater ecosystem”
2.	3 Months 15 days training with CSISA Project on “Quantitative estimation of nutrients from the different CA-based practices” from ICAR-CSSRI, Karnal, Haryana, India
3.	6-week of summer training with CSISA Project on “Quantitative estimation of nutrients from the different CA-based practices” from ICAR-CSSRI, Karnal, Haryana, India
4.	International Training Programme “Conservation Agriculture: Developing Resilient Systems” ICAR CSSRI, Karnal (Haryana), India
5.	Training on “Participatory Irrigation management for maintaining regional food and water security” in Centre Soil Salinity Research Institute CSSRI Karnal (Haryana) from February 16- February 19, 2016
6.	6-week training with CSISA Project on “Quantitative estimation of nutrients from the different CA-based practices” held at CSISA Research Platform, Karnal, Haryana, India
7.	6-week training from ICAR- National Bureau of Animal Genetic Resources (NBAGR), Karnal (Haryana), India in Biotechnology.
8.	6-week training from ICAR- National Dairy Research Institute (NDRI) at Animal Biotechnology Centre Karnal (Haryana), India.

## Qualified Exam

University grant commission (UGC)-**National eligibility test (NET)**

## Software Knowledge

S. No.	Software Used
1	Origin
2	Trajstat
3	IBM-SPSS Stat 26

## Instrument Handling

Flame photometer, UV Vis- Spectrophotometer, Kjeldahl, AAS, ICP-OES, TOC, WD-XRF

## List of Research Papers

Sr. No.	Journal / Title	Work Description
1	Martina Rani, Sakshi Ahlawat, N. Vijayan, Lokesh Yadav, Tirthankar Banerjee, Abhijeet Chatterjee... et al (2024) “Spatial Heterogeneity in Health Risk Assessment of Heavy Metals During North East Monsoon and South West Monsoon over India”. Aerosol science and engineering <a href="https://doi.org/10.1007/s41810-024-00252-6">https://doi.org/10.1007/s41810-024-00252-6</a>	Sample collection, data analysis, Manuscript writing
2	Martina Rani, Sakshi Ahlawat, et al., “Elemental Variation and Health Risk Assessment of PM <sub>2.5</sub> at Delhi during North-East Monsoon and South-West Monsoon.” Environ. Sci. Proc. 2022, 19, 62. <a href="https://doi.org/10.3390/ecas2022-12842">https://doi.org/10.3390/ecas2022-12842</a>	Sample analysis, data handling, data analysis, research paper writing

3	Arnab Mondal, Ritu Jangirh, Rahul Arya, Lokesh Yadav, Sakshi Ahlawat, Pooja Yadav, Paramjeet Singh Paliyal, Prakash Bobde, Paulami Ghosh, Surajit Mondal, Akansha Rai, Rubiya Banoo, Nikki Chaudhary, Martina Rani, Garima Kotnala, Eiko Nemitz, Sudhir Kumar Sharma, Tuhin Kumar Mandal (2024). Analysing Solid Residential Fuel Usage Patterns in Rural and Urban Slums of Delhi: Implications for Pollution Reduction and Sustainable Practices Energy for Sustainable Development	Sample collection, Data analysis
3	Rahul Arya, Sakshi Ahlawat, Lokesh Yadav, Martina Rani, Arnab Mondal, Ritu Jangirh, Garima Kotnala, Nikki Choudhary, Akansha Rai, Ummed Singh Saharan, Pooja Yadav, Rubiya Banoo, Sudhir Kumar Sharma, Bhola Ram Gurjar, Eiko Nemitz, Jacqueline F. Hamilton, Tuhin Kumar Mandal (2023) Emission inventory of inorganic trace gases from solid residential fuels over the National Capital Territory of India. Environmental Science and Pollution Research	Sample collection, Data analysis
4	Ritu Jangirh, Sakshi Ahlawat, Rahul Arya, Arnab Mondal, Lokesh Yadav, Garima Kotnala, Pooja Yadav, Nikki Choudhary, Martina Rani, Rubiya Banoo, et al., (2022). Gridded distribution of total suspended particulates (TSP) and their chemical characterization over Delhi during winter. Environmental Science and Pollution Research.	Sample collection
5	Sudhir Kumar Sharma, Tuhin Kumar Mandal, Rubiya Banoo, Martina Rani (2022). Bulletin of Environmental Contamination and Toxicology	Sample collection
6	Arnab Mondal, Ummed Singh Saharan, Rahul Arya, Lokesh Yadav, Sakshi Ahlawat, Ritu Jangirh, Garima Kotnala, Nikki Choudhary, Rubiya Banoo, Akansha Rai, Pooja Yadav, Martina Rani, Shyam Lal et al., (2021) Atmos Environ-X	Sample collection
7	Martina Rani, Renu Daulta “Effects of Residue Management Practices of Wheat-Rice cropping system on Soil Physicochemical Properties & Micro and Macro Nutrient Availability to Crop.” Volume 5, Issue 5; May 2018.	Sample collection, data analysis, manuscript writing

### ***Conferences & Webinar Attend***

Participated in the 7th National Conference on “Recent advances in Chemical, Biological and Environmental sciences (RACES-2015)” at Multani Mal Modi College, Patiala (Punjab), India.

International Conference on Sustainable Agriculture, Energy, Environment, and Technology (Icsaeet-2018) at MDU Rohtak (Haryana): Poster presentation on “Residue Burning a Climate Change Issue.”

Poster presentation at 10th International Conference on “Advances in Metrology” (Admet-2019) at CSIR-NPL, New Delhi -110012

Participated in the webinar on “Importance of Environmental Sustainability for Industries” from Sustainable Approach for Green Environment (**SAGE**) in association with **IIT Bombay** and Maharashtra Pollution Control Board in 2021

### ***EXTRA-CURRICULAR ACTIVITY***

Won 1st prize in Essay Writing Competition on “Renewable energy” in 2005 at Govt Girls Senior Secondary School, Pehowa, Kurukshetra (Haryana).

Won the 1st prize in the General Knowledge Quiz Competition on Hindi Pakhwara in ICAR-CSSRI Karnal (Haryana) in 2016.

Won the 3rd prize in a Poster presentation on Hindi Pakhwara in ICAR-CSSRI Karnal (Haryana) in 2016.

Won the 2nd prize in the Science Quiz Competition in CSIR-NPL, New Delhi, India, in 2018.

Lifetime member of the Indian Society of Soil Salinity & Water Quality since 2017.

### ***Personal Detail.***

S. No.	Detail	
1	Name	Martina Rani W/O Mr. Parveen Kumar
2	Father Name	Late Sh. Om Parkash
3	Date of Birth	09/05/1988
4	Born Place	Kurukshetra
5	Marital status	Married
6	Language	Hindi, English
7	Contact No	+918929444483

### ***Educations***

Levels	Types	Passing Year	Work Descriptions
Ph.D.	Environmental Science	August, 2025	“Study of elements in fine particulate matter over India”
P. G	Master of Science	August, 2015	Environmental science, Institute of Environmental Science (IES)- Kurukshetra University, Kurukshetra (KUK), Haryana, India
U. G	Bachelor of Technology (Bio-Technology)	August 2012	Bio-Technology, University institute of engineering and technology (U.I.E.T), KUK, Haryana, India

**References.**

S. No.	Name	Designation	Organization
1	Dr. Tuhin Kumar Mandal	Chief Principal Scientist	CSIR-NPL, New Delhi, India
2	Dr. Sudhir Kumar Sharma	Principal Scientist	CSIR-NPL, New Delhi, India
3	Dr. H.S. Jatt	Principal Scientist	ICAR-Indian Institute of Maize Research (IIMR) Ludhiana

Signature



Place – Kurukshetra (Haryana)