


## Brief Biodata

**Name: Dr. Paramita Guha**

<b>Designation:</b>	Senior Scientist	
<b>DP No. and Name:</b>	7, Directorate NPL	
<b>DU No. and Name:</b>	7.07, Human Resource Development	
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<b>Date of Joining CSIR-NPL:</b>	14.03.2022	
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### Research Area/ Interest

Wireless sensor networking, Embedded System and electronics simulations, Multivariate data analysis & modelling, Machine learning algorithms, Artificial Intelligence, Internet of Things.

### Educational Qualifications

*(Please write latest qualification first)*

Degree	Subject	University/ Institute	Year
PhD	Electrical, Specialisation: Control Systems	Indian Institute of Technology, Delhi	2013
ME	Electrical, Specialisation: Control Systems	Bengal Engineering College, Shibpur, WB	2003
BE	Electrical	Jalpaiguri Govt. Engineering College, Jalpaiguri, WB	2001

### Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Sr. Scientist	CSIR-NPL	March, 2022	Till Date	Instrumentation, AI, ML, IoT
Sr. Scientist	CSIR-CSIO	April, 2017	March 2022	Instrumentation, AI, ML, biotechnology
Scientist	CSIR-CSIO	April, 2012	April, 2017	Instrumentation, AI, ML, biotechnology

### No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
20	1	34	Chapters: 3	58

## **Selected Publications**

- U. Kamboj, P. Guha, S. Mishra, “Comparison of PLSR, MLR, SVM regression methods for determination of crude protein and carbohydrate content in stored wheat using near Infrared spectroscopy” Materials Today, vol. 48, part 3, pp. 576-82, 2022
- P. Guha, “Spatiotemporal Analysis of COVID-19 Pandemic and Predictive Models Based on Artificial Intelligence for Different States of India”, Journal of the Institution of Engineers (India): Series B, vol. 102, no. 06, pp. 1265-74, 2021
- N. Thakur; P. Guha, S. Mishra, “Performance Analysis of Transition Metals Embedded Tin Halide Perovskite Solar Cell”, IEEE journal of Photovoltaics, vol. 12, no. 3, pp. 728 – 36, 2022
- M. Meenu, P. Guha, S. Mishra, “Impact of infrared treatment on quality and fungal decontamination of mung bean (*Vigna radiata* L.) inoculated with *Aspergillus* spp.”, Journal of the Science of Food and Agriculture, 98(7), 2770-2776, 2018
- U. Kamboj, P. Guha, S. Mishra, “Characterization of chickpea flour by Near Infrared spectroscopy and chemometrics”, Analytical Letters, 50(11), 1754-1766, 2017
- U. Kamboj, P. Guha, S. Mishra, “Determination of chemical properties of desi chickpea flour (Besan) Using Near Infrared Spectroscopy and Chemometrics”, International Journal of Tropical Agricultural, 3467-3470, 2016.
- M. Meenu, P. Guha, S. Mishra, “Impact of infrared treatment on quality and fungal decontamination of mung bean (*Vigna radiata* L.) inoculated with *Aspergillus* spp.”, Journal of the Science of Food and Agriculture, 98(7), 2770-2776, 2018
- U. Kamboj, P. Guha, S. Mishra, “Characterization of chickpea flour by Near Infrared spectroscopy and chemometrics”, Analytical Letters, 50(11), 1754-1766, 2017
- P. Guha, M. Nabi, “Reduced Order Modeling of a Microgripper using SVD-Second-Order Krylov Method”, International Journal for Computational Methods in Engineering Science & Mechanics, Taylor & Francis, 16(3), 65-70, 2015.

## **Patents**

- AI based models to determine the automatic detection of garbage floating over the holy rivers such as Yamuna, Ganga, Hooghly and the Brahmaputra, V. Choudhury, P. Guha, S. Devi, V. Rai, A. Katiyar, A. K. Singh, N. Suvarna, V. K. Mishra, 202241030362, date: 26.05.2022, Published
- Deep learning based automatic detection of front-seater as well as passengers without wearing seat belt of the car using image processing techniques, V. Choudhury, P. Guha, S. Mishra, 202241052809, date: 15.09.2022, Published

## **Current Activities**

*(Not more than 100 words)*

- Analysis of energy performance of PV modules and its reliability
- Scope of machine learning and internet of things towards the digitization of metrology
- Development of a low-cost digital lock-in amplifier

## **Honour(s)/Award(s)/ Fellowship(s)**

- Fellow of Metrology Society of India
- Fellowship from MHRD from 2007-2012

### **Contributions to AcSIR**

- Assistant professor of AcSIR
- PhD supervisor of students. Ongoing: 3; Completed: 2

### **Membership of Professional Societies/ Institutions**

- Metrology society of India
- Institute of Engineers (India)

### **Any other Information**

*(Not more than 100 words)*

Looking after various activities of HRD, NPL