


Brief Biodata

Name: Dr. Rajendra Singh Meena

Designation:	Sr. Principal Scientist	
DP No. and Name:	2.1, LF & HF DC metrology	
DU No. and Name:	# 2 Electrical and Electronics Metrology	
Email:	meenars@nplindia.org	
Date of Joining CSIR-NPL:	18 th March 2008	
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Research Area/ Interest

Dielectric Materials for energy and metrology application. Worked for cryogenics technology and superconductivity materials.
DC high voltage metrology.

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
B. Sc	Physics, chemistry and Mathematics	University of Rajasthan	1996
M.Sc	Physics (condensed matter Physics)	University of Rajasthan	1999
Ph. D	4f and 3d dopant effect on superconducting properties in REFeAsO Oxypnictide family: electrical transport & X-ray studies	University of Rajasthan	2014

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Scientist Trainee, Scientist B, Scientist C	IUAC (formally NSC), New Delhi	1999	2008	Cryogenics and low temperature
Scientist C,	National Physical laboratory	March 2008-	2012	Superconductivity, cryogenics and Lf Hf DC high Voltage metrology
Senior Scientist	National Physical laboratory	March 2012	March 2016	Cryogenics facility and

				superconductivity
Principal Scientist	National Physical laboratory	March 2016	March 2021	Electrical Metrology
Sr. Principal scientist	NPL	March 2021	Till date	DC High Voltage

No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
33	2	4	1 book Chapter	38

Selected Publications

1. P N Prakash...**R. S . Meena**, R Mehta, K K Mistri , A Pandey, M V Suresh Babu, B. K. Sahu. A Sarkar, S S K Sonti, A Rai, S Venkatramanan, J Zachariassr, K Bhowmik and A ROY, "Superconducting linear accelerator system for NSC," *PRAMANA-Journal of physics*, vol. 59, pp. 849-858, 2002.
2. V. P. S. Awana, A. Vajpayee, A. Pal, M. Mudgel, **R. S. Meena**, and H. Kishan, "Superconductivity at 14 K in $\text{SmFe}_{0.9}\text{Co}_{0.1}\text{AsO}$," *Journal of Superconductivity and Novel Magnetism*, vol. 22, pp. 623-626, 2009.
3. T. S. Datta, R. Mehta,**R. S. Meena**, B. K. Sahu, R. G. Sharma, and A. Roy, "Superconductivity and cryogenics for linear accelerator programme at IUAC, New Delhi," *Cryogenics*, vol. 49, pp. 243-248, 2009.
4. V. P. S. Awana, **R. S. Meena**, A. Pal, A. Vajpayee, K. V. R. Rao, and H. Kishan, "Physical property characterization of single step synthesized $\text{NdFeAsO}_{0.80}\text{F}_{0.20}$ bulk 50 K superconductor," *The European Physical Journal B*, vol. 79, pp. 139-146, 2010.
5. **R. S. Meena**, A. Pal, S. Kumar, K. V. R. Rao, and V. P. S. Awana, "Magneto-transport and Magnetic Susceptibility of $\text{SmFeAsO}_{1-x}\text{F}_x$ ($x=0.0$ and 0.20)," *Journal of Superconductivity and Novel Magnetism*, vol. 26, pp. 2383-2389, 2012.
6. **R. S. Meena**, Shiv Kumar Singh, Anand Pal, Anuj Kumar, R. Jha, K. V. R. Rao, and X. L. W. Y. Du, and V. P. S Awana, "High field (14 T) magneto transport of Sm/PrFeAsO ," *Journal Of Applied Physics*, vol. 111, 2012.
7. **R. S. Meena**, A. Pal, K. V. R. Rao, H. Kishan, and V. P. S. Awana, "Electrical and Magnetic Behaviour of $\text{PrFeAsO}_{0.8}\text{F}_{0.2}$ Superconductor," *Journal of Superconductivity and Novel Magnetism*, vol. 27, pp. 687-691, 2013.
8. R.C. Bhatt, R.S. Meena, H. Kishan, V.P.S. Awana and S.K. Agarwal " Structural, Magnetic and Magnetocaloric studies of $\text{Ni}_{50}\text{Mn}_{30}\text{Sn}_{20}$ Shape Memory Alloy" *J. Sup.*

& Novel Mag. 29, 3201-3205 (2016).

9. Deepak Sharma, M.M. Sharma, R.S. Meena and V.P.S. Awana; "Raman Spectroscopy of Bi₂Se_{3-x}Te_x (x =0-3) Topological Insulator Crystals" **Physica B; Condensed Matter Volume- 600 1 January, 412492 (2021)**
10. Rabia Sultana, Deepak Sharma, R.S. Meena and V.P.S. Awana "Signatures of Quantum Transport in Bi₂Se₃ Single Crystal" Letter J. Sup. Novel Mag. 32, 1497 (2019) DOI:10.1007/s10948-019-5060-1
11. Swati soni, Neelu Chouhan, ...R. S. Meena,..Saurabh Dalela. Electronics structure and room temperature Ferromagnetism in Gd-doped Cerium Oxide Nano particles for hydrogen Generation via Photocatalytic water splitting; Global Challenges, advance science Volume 3, issue 5 1800090. news DOI: 10.1002/gch2.2 0180090 (2019)
12. P. Rani, R.S. Meena, A.K. Hafiz and V.P.S. Awana "Magnetic susceptibility and high field magneto transport of Ag added Bi-2223 superconductor: A revisit" J. Sup. & Novel Mag. 30, 1737-1747 (2017).

Patents

Nil

Current Activities

(Not more than 100 words)

Currently working for DC High voltage standard facility, which is a part of Electrical and Electronics Metrology Division, established in 2004 at NPL India, with the help of PTB, Germany. It has measurement capability (CMC's) up to 100 kV, which is traceable to primary standard "DC Josephson voltage" at NPL. It is maintaining 3 CMC's, i.e. High Voltage Probe/Divider, Kilo-voltmeter and High Voltage Sources. We provide tractability to the different organisation and industries. The research and development is important and continuous on going activity in this section.

Honour(s)/Award(s)/ Fellowship(s)

Contributions to AcSIR

NA

Membership of Professional Societies/ Institutions

Indian Cryogenics Society

Any other Information

(Not more than 100 words)

Experience in Area of Cryogenics technology

- An insulation study on Multi Layer Insulation had carried out for cryogenics equipments.
- Purification of Helium gas: A purifier had been made at IUAC, having the facility to purify helium gas with impurity 1% of air (Nitrogen, Oxygen, water molecule etc.)
- Helium and nitrogen distribution line was developed for linear accelerator system.
- Emission free, liquid nitrogen based Vehicle
- Lead role in establishment of Liquid Helium Facility (L-70) at NPL.