Brief Biodata

Name:

Designation:	**Chief Scientist**
DP No. and Name:	**1.06 Pressure, Vacuum & Ultrasonic Metrology 1.01 Mass Standards**
DU No. and Name:	**1.0 Physico- Mechanical Standards**
Email:	**ndilawar@nplindia.org**
Date of Joining CSIR-NPL:	**11-08-1997**
Phone *(office)*	**47091207**
Mobile *(optional)*	

Research Area/ Interest

Pressure standards; High pressure Physics; phase transitions; high pressure and low temperature Raman spectroscopy

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
Ph.D	**Physics**	**IIT Delhi**	**1997**
M.Tech.	**Solid State Materials**	**IIT Delhi**	**1992**
M.Sc.	**Physics of Materials**	**Jamia Millia Islamia, New Delhi**	**1988**

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Chief Scientist	**CSIR- National Physical Laboratory, New Delhi**	**01-01-2019**	**Date**	**Pressure standards; High pressure Physics; phase transitions; high pressure and low temperature Raman spectroscopy**
Sr. Pr. Scientist (F)	**--Do--**	**01-01-2014**	**31-12-2018**	**--Do--**
Scientist E-II	**--Do--**	**01-01-2009**	**31-12-2013**	**--Do--**
Scientist E-I	**--Do--**	**01-01-2005**	**31-12-2008**	**--Do--**
Scientist C	**--Do--**	**01-01-2001**	**31-12-2004**	**--Do--**
Scientist B	**--Do--**	**11-08-1997**	**31-12-2000**	**--Do--**

No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
78	4	>150	Chapters contributed in three books	

Selected Publications

Ankit, Dharmendra Singh Raghav, Neha Bura, Deepa Yadav, Jasveer Singh, Hari Krishna Singh, Nita Dilawar Probing phase separation in Nd1-xSrxMnO3 (x ≈ 0.4, 0.5) polycrystals through temperature dependent magnetic and Raman spectroscopy studies, October 2021, Journal of Alloys and Compounds 894(1-3):162424, DOI: 10.1016/j.jallcom.2021.162424

Neha Bura, Ankit Bhoriya, Deepa Yadav, Jasveer Singh, and Nita Dilawar Sharma Temperature-Dependent Phonon Behavior in Nanocrystalline Tm2O3: Fano Interference and Phonon Anharmonicity Journal of Physical Chemistry C, 2021, https://doi.org/10.1021/acs.jpcc.1c04250

Girija Shankar Papanai , Jasveer Singh, Nita Dilawar and Bipin Gupta Temperature dependent Raman scattering of directly grown twisted bilayer graphene film using LPCVD methodCarbon 177, February 2021, DOI: 10.1016/j.carbon.2021.02.083

Neha Bura, Deepa Yadav, Ankit, Jasvir Singh &, Nita Dilawar Sharma, Influence of varying thermodynamic parameters on the structural behavior of nano-crystalline europium sesquioxide, Journal of Alloys and Compounds, 856:158129, 2020; DOI: 10.1016/j.jallcom.2020.158129

Jasveer Singh, L. A. Kumaraswami-dhas, Neha Bura and Nita Dilawar Sharma, A Monte Carlo simulation investigation on the effect of the probability distribution of input quantities on the effective area of a pressure balance and its uncertainty, Measurement, 172(1):108853, 2020, DOI: 10.1016/j.measurement.2020.108853

Jasveer Singh, L. A. Kumaraswami-dhas, Neha Bura, Shanay Rab and Nita Dilawar Sharma, Characterization of a standard pneumatic piston gauge using finite element simulation technique vs cross-float, theoretical and Monte Carlo approaches, Advances in Engineering Software, 2020 ,
DOI: 10.1016/j.advengsoft.2020.102920

Swati Chaudhary, A.B.V. Kiran Kumar, Nita Dilawar Sharma, Mukul Gupta, Cauliflower-shaped ternary nanocomposites with enhanced power and energy density for supercapacitors Int J Energy Res. 2019;1–15.

Nita Dilawar Sharma, Jasveer Singh, Aditi Vijay, K Samanta, S D Pandey Investigations of anharmonic effects via phonon mode variations in nanocrystalline Dy2O3, Gd2O3 and Y2O3, J of Raman Spectroscopy, DOI: 10.1002/jrs.5120

Nita Dilawar, Jasveer Singh, Aditi Vijay, Kausik Samanta, Sugandha Dogra and A K Bandyopadhyay, Pressure Induced Structural Transition Trends in Nano-Crystalline Rare Earth Sesquioxides: A Raman Investigation, The Journal of Physical Chemistry C 120(21) · May 2016

K. Samanta , N. Gupta , H. Kaur, L. Sharma, S. Dogra Pandey, J. Singh, T.D. Senguttuvan, N. Dilawar Sharma, A.K. Bandyopadhyay in thermoelectric Cu3SbSe3 nanoparticles (2014) 99-104	Order-disorder transition and Fano-interference Materials Chemistry and Physics, 2015, 151

Patents

An automatic calibration setup for multiple blood pressure measuring instruments, October 2021, Patent: 202111048098 (Applied)

Current Activities

(Not more than 100 words)

Pressure standards; High pressure Physics; phase transitions; high pressure and low temperature Raman spectroscopy, Mass standards; FEM and Monte Carlo Simulations for pressure standards

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

1. **CSIR Young Scientist award for Physical Sciences 2001**
2. **Asia Pacific Metrology Programs Iizuka Award for Young scientists 2004**
3. **Young Research Award for best Oral presentation at the IUMRS-Int. Conf. in Asia, 1998**

Contributions to AcSIR

Faculty for Diploma course on “Precision measurements and quality control”
Guiding research students towards award of Ph.D Degree

Membership of Professional Societies/ Institutions

1. **Metrology Society of India**
2. **American Nano Society**

Any other Information

(Not more than 100 words)

Qualified NABL Assessor
Advisory committee for BIS