


## Brief Biodata

**Name: VEERPAL SINGH AWANA**

<b>Designation:</b>	Chief Scientist	
<b>DP No. and Name:</b>	2.01: LF, HF Impedance & DC Metrology	
<b>DU No. and Name:</b>	2: Electrical & Electronics Metrology	
<b>Email:</b>	awana@nplindia.org	
<b>Date of Joining CSIR-NPL:</b>	02-12-2002	
<b>Phone (office)</b>	9357	
<b>Mobile (optional)</b>	9811677482	

### Research Area/ Interest

**Quantum Materials: Superconductors & Topological Materials**

### Educational Qualifications

*(Please write latest qualification first)*

Degree	Subject	University/ Institute	Year
Ph. D	Physics: Superconductivity	Delhi University- New Delhi-110007	1994
M. Sc.	Materials Physics	Jamia Millia Islamia New Delhi-110025	1987
B.Sc. (Hons)	Physics	Jamia Millia Islamia New Delhi-110025	1985

### Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Scientist	CSIR-NPL	02-12-2002	01-12-2006	Superconducting Materials
Senior Scientist	CSIR-NPL	02-12-2006	01-12-2010	Superconducting Materials
Principal Scientist	CSIR-NPL	02-12-2010	01-12-2014	Superconducting Materials
Senior Principal Scientist	CSIR-NPL	02-12-2014	01-12-2019	Superconducting Materials
Chief Scientist	CSIR-NPL	02-12-2019	Till Date	Allied Quantum Materials

## No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
450	NONE	50	NONE	500

## Selected Publications

1. A. Saxena, M.M. Sharma, Prince Sharma, Yogesh Kumar, Poonam Rani, M. Singh, S. Patnaik and **V.P.S. Awana** "Structural and weak antilocalization analysis of topological single crystal SnSb<sub>2</sub>Te<sub>4</sub>" **J. Alloys & Comp.** **895**, 162553 (2022)
2. Yogesh Kumar, Rabia Sultana and **V.P.S. Awana** "Comprehensive analysis for the high field magneto conductivity of Bi<sub>2</sub>Te<sub>3</sub> single crystal" **Physica B**, **601**, 412759 (2021)
3. M.M. Sharma, Prince Sharma, G. Gurjar, S. Patnaik and **V.P.S. Awana** "SnAs: a 4K weak type-II superconductor with non-trivial band topology" **Solid State Comm.**; **340**, 114531 (2021)
4. N.K. Karn, M.M. Sharma, P. Sharma, Ganesh Gurjar, S. Patnaik and **V.P.S. Awana** "Superconductivity with non-trivial states in NbC" **J. Sup. & Novel Mag.** **34**, 2717 (2021)
5. Prince Sharma, M.M. Sharma, Mahesh Kumar and **V.P.S. Awana** "Metal Doping in Topological Insulators - A Key for Tunable Generation of Terahertz" **Solid State Commun.** **319**, 114005 (2020)
6. Pankaj Maheshwari, V. Raghvendra Reddy, Bhasker Gahtori and **V.P.S. Awana** "Detailed Physical Property Characterization of FeTe<sub>1-x</sub>Sex (x = 0.0 to 0.50) Single Crystals" **Mat. Res. Express** **6**, 046003 (2019)
7. Bipin Kumar Gupta, Rabia Sultana, Satbir Singh, Vijeta Singh, Geet Awana, Anurag Gupta, Bahadur Singh, A.K. Srivasatava, O.N. Srivastava, S. Auluck, and **V.P.S. Awana** "Unexplored photoluminescence from bulk and mechanically exfoliated few layers of Bi<sub>2</sub>Te<sub>3</sub>" **Sci. Rep.** **8**, 2905 (2018)
8. Rabia Sultana, P. Neha, R. Goyal, S. Patnaik and **V.P.S. Awana** "Unusual non-saturating Giant Magneto-resistance in single crystalline Bi<sub>2</sub>Te<sub>3</sub> topological insulator" **J. Magn. Mag. Mater** **428**, 213 (2017)
9. S. Thirupathiah, Soumi Ghosh, Rajveer Jha, E. D. L. Rienks, Kapildeb Dolui, V. V. Ravi Kishore, B. Büchner, Tanmoy Das, **V. P. S. Awana**, D. D. Sarma, J. Fink " Unusual Dirac fermions on the surface of noncentrosymmetric  $\alpha$ -BiPd superconductor" **Phys. Rev. Lett.** **117**, 177001 (2016)
10. Rajveer Jha, Brajesh Tiwari, and **V.P.S. Awana** "Appearance of bulk superconductivity under hydrostatic pressure in Sr<sub>0.5</sub>RE<sub>0.5</sub>BiS<sub>2</sub> (Re = Ce, Nd, Pr, Sm) new compounds" **J. Appl. Phys.** **117**, 013901 (2015)

## Patents

None

## Current Activities

(Not more than 100 words)

Quantum Condensed Matter Research and Applications sub-division is actively involved in the growth, structural, microstructural, transport, optical and theoretical investigation of topological materials. These quantum materials gained tremendous momentum in the field of superconductivity, magnetism, terahertz generation/detection, and spintronics because of their topologically dependent surface states. The main work horse of the activity is PPMS (14 Tesla, 2K) Physical Property Measurement system

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

- ✓ **Fellow – IOP UK** (Institute of Physics – UK) **2022**
- ✓ **Academician-APAM** (Asia Pacific Academy of Materials) **2015**
- ✓ **MRSI-ICSC** Superconductivity and Material Science Annual **Prize 2014**
- ✓ **DAE-SRC** Outstanding Investigator Award **2012**  
(Fellowship **Rs. 20,000 pm** + research grant of **Rs One Crore** for five years)
- ✓ **MRSI** (Materials Research Society of India) **Medal-2010**
- ✓ **NPL – SCIENTIST OF THE YEAR (SYA) AWARD - 2008**
- ✓ **Rajib Goyal Medal** for Physical Sciences – **2005**
- ✓ **DAE-SSPS** “Golden Jubilee” Young Achievers Award (**YAA**) – **2005**.
- ✓ **INSA** (Indian National Science Academy) **Young Scientist Medal -1998**

### **Editorship in reputed journals:**

Co-Editor: J. Sup. & Novel Mag. (**Springer Nature**): I.F. = **1.61**  
Editorial Board Member: Materials Research Express (**IOP-UK**): I.F. = **1.43**  
Editorial Board Member: Superconductor Sci. & Tech. (**IOP-UK**): I.F. = **3.56**  
Editorial Board Member: **Frontiers in Physics**: I.F. = **3.53**

## Contributions to AcSIR

1. Rajveer Jha: Superconductivity of new BiS<sub>2</sub> based compounds - **AcSIR-Degree Awarded-2015**
2. Reena Goyal: Robust superconductivity of (Nb/Ta)(Pd)(S/Se/Te) layered compounds - **Thesis Awarded – AcSIR -2017**
3. Pankaj Maheshwari: Superconductivity in pure and FeSe/Te single crystals - **Thesis Awarded – AcSIR -2020**
4. Rabia Sultana: “Superconductivity in doped Topological Insulators” - **Thesis Awarded – AcSIR - 2019**
5. Deepak Sharma: “Growth and characterization of Mixed Topological Insulators” - **Thesis Awarded AcSIR-Thesis Awarded -2022**
6. Bal Govind: Investigation of Half and Full - Heusler based Magnetic Materials - **Thesis Awarded AcSIR-Thesis Awarded -2022**

**FIVE (6) Ph.D.-Awarded from AcSIR**

### Pursuing

**SEVEN - Registered in AcSIR: (7-CSIR/UGC-NET): PURSUING**

(Prince/Manish/Yogesh/Ankush/Navneet/Kapil/Abhilasha)

**# recognized guide for Ph.D. at various universities, besides AcSIR**

- ✓ University of Delhi, Delhi
- ✓ Jamia Millia Islamia University, New Delhi
- ✓ Rajasthan University, Jaipur, Rajasthan
- ✓ Himachal Pradesh University, Shimla
- ✓ Manipal University, Karnatka.
- ✓ Punjab University, Chandigarh
- ✓ Banaras Hindu University, Varanasi

(11 Ph.D. supervised & awarded from above):

**Arpita/Monika/Anand/Shiva/Jagdish/Anuj/Ramesh/KP/Devina/Prasanna/Meena/)**

## Membership of Professional Societies/ Institutions

Member MRSI (Material Research Society of India)  
Member CRSI (Chemical Research Society of India)  
Member EMSI (Electron Microscopy Society of India)  
Member IPA (Indian Physics Association)

## Any other Information

### Contribution towards of science & technology in the country:

Coordinator – QUANTUM TECHNOLOGY – “VAIBHAV” (2-31<sup>st</sup> Oct. 2020):



### Personal Web Page:

[awanavps.webs.com](http://awanavps.webs.com)

### Google Scholar:

<http://scholar.google.co.in/citations?user=ofG2kjUAAAAJ&hl=en>

SCI Articles – 500; Citations > 7500; h-index-42

### Research Gate:

<https://www.researchgate.net/profile/Vp-Awana>