


## **Brief Biodata**

**Name: Dr. Swati Jha**

<b>Designation:</b>	Scientist	
<b>DP No. and Name:</b>	# 4.01, Photovoltaic Metrology	
<b>DU No. and Name:</b>	# 4.0, Advanced Materials and Device Metrology	
<b>Email:</b>	swatijha.nplindia@csir.res.in	
<b>Date of Joining CSIR-NPL:</b>	08.05.2025	
<b>Phone (office)</b>	01145608651	

### **Research Area/ Interest**

- Thin films and coatings
- Photovoltaic solar cells
- Extracting and recycling of waste photovoltaic modules
- Energy materials

### **Educational Qualifications**

*(Please write latest qualification first)*

Degree	Subject	University/ Institute	Year
Ph. D	Materials Science	Ruhr University Bochum, Germany	2020
Int. M.Tech	Nanotechnology	Central University of Jharkhand, India	2015

### **Academic / Research Experience**

Grade / Post	Institute	Duration		Research Field
		From	To	
Scientist	CSIR-NPL	May 2025	Present	Photovoltaic solar cells, thin films and coatings, recycling of waste photovoltaic modules, and Energy materials
Scientist	CSIR-CGCRI	June 2023	May 2025	Hard non-oxide ceramic materials
Application Scientist	Anton Paar India	Jan 2022	Sept 2022	Materials surface characterization
Post-doctoral researcher	SLAC National Accelerator Laboratory, Stanford University, USA	Mar 2021	Oct 2021	Combinatorial screening of thin film libraries for energy applications

## No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
9	1	1	-	11

## Selected Publications

1. **S. Kumari**, J. C. R. Junqueira, W. Schuhmann, A. Ludwig, *High-Throughput Exploration of Metal Vanadate Thin-Film Systems ( $M-V-O$ ,  $M = Cu, Ag, W, Cr, Co, Fe$ ) for Solar Water Splitting: Composition, Structure, Stability, and Photoelectrochemical Properties*, *ACS Combi. Sci.* **2020**, 22, 844–857
2. **S. Kumari**, J. C. R. Junqueira, S. Sarker, A. Mehta, W. Schuhmann, A. Ludwig, *Structural and Photoelectrochemical Properties in the Thin Film System  $Cu-Fe-V-O$  and its Ternary Subsystems  $Fe-V-O$  and  $Cu-V-O$* , *J. Chem. Phys.* **2020**, 153, 014707-014717
3. **S. Kumari**, L. Helt, J. R.C. Junqueira, A. Kostka, S. Zhang, S. Sarker, A. Mehta, C. Scheu, W. Schuhmann, A. Ludwig, *High-throughput Characterization of  $Ag-V-O$  Nanostructured Thin-Film Materials Libraries for Photoelectrochemical Solar Water Splitting*, *Int. J. Hydrogen Energ.*, **2020**, 45, 12037-12047
4. T. H. Piotrowiak, X. Wang, L. Banko, **S. Kumari**, S. Sarker, A. Mehta, A. Ludwig, *High-Throughput Characterization of  $(Fe_xCo_{1-x})_3O_4$  Thin-Film Composition Spreads*, *ACS Combi. Sci.* **2020**, 22, 804–812
5. **S. Kumari**, C. Khare, F. Xi, M. Nowak, K. Sliozberg, R. Gutkowski, P. S. Bassi, S. Fiechter, W. Schuhmann, A. Ludwig, *Combinatorial Search for New Solar Water Splitting Photoanode Materials in the Thin-Film System  $Fe-Ti-W-O$* , *Z. Phys. Chem.*, **2019**, 234, 867-885
6. **S. Kumari**, R. Gutkowski, J. R. C. Junqueira, A. Kostka, K. Hengge, C. Scheu, W. Schuhmann, A. Ludwig, *Combinatorial Synthesis and High-Throughput Characterizations of  $Fe-V-O$  Thin- Film Materials Libraries for Solar Water Splitting*, *ACS Combi. Sci.*, **2018**, 20, 544-553
7. Soni, **S. Kumari**, S. K. Sharma, S. K. Mishra, *Effect of Deposition Pressure, Nitrogen Content, and Substrate Temperature on Optical and Mechanical Behavior of Nanocomposite  $Al-Si-N$ - Hard Coatings for Solar Thermal Applications*, *J. Mater. Eng. Perform.*, **2018**, 27, 6729–6736
8. S. K. Mishra, **S. Kumari**, Soni, ‘Development of Hard and Optically Transparent  $Al-Si-N$  Nanocomposite Coatings’, *Surf. Interface Anal.*, **2017**, 49, 345-348
9. **S. Kumari**, V. Kumar, P. Kumar, M. Kar, L. Kumar, *Structural and Magnetic Properties of Nanocrystalline Yttrium substituted Cobalt Ferrite Synthesized by Citrate Precursor Technique*, *Adv. Powder Technol.*, **2015**, 26, 213-223
10. V. Kumar, **S. Kumari**, P. Kumar, M. Kar, L. Kumar, *Structural Analysis by Rietveld Method, and its Correlation with Optical Properties of Nanocrystalline Zinc Oxide*, *Adv. Mater. Lett.*, **2015**, 6, 139-147

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

- Post-doctoral fellowship from **SLAC National Accelerator Laboratory, Stanford University, USA**, 2021
- Doctoral fellowship from Faculty of **Mechanical Engineering, Ruhr-University Bochum, Germany**, 2019-2020
- Scholarship from International **Max-Planck Research School for Interface Controlled Materials for Energy conversion (IMPRS-SurMat), Germany**, 2016-2019

### **Patents**

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### **Current Activities**

*(Not more than 100 words)*

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### **Contributions to AcSIR**

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

- Life membership of the Indian Ceramic society

### **Any other Information**

*(Not more than 100 words)*

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