

## Curriculum Vitae

**Dr. Pooja J. A. Rao**

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**Date of Birth :** 10<sup>th</sup> Sep. 1975

### Academic:

**Ph.D :** Chemistry 2006 (Jamia Millia Islamia, New Delhi/ National Physical Laboratory, Council of Scientific and Industrial Research, New Delhi.)

**Title of thesis :** “*Synthesis of Alkaline Earth Aluminate Phosphors by Various Routes & Study of their Luminescent Characteristics*”

**M. Sc. :** Specialization in “**Organic Chemistry**” from Devi Ahilya Vishvavidhyalaya, Indore (M.P.) in 1997.

**B. Sc. :** Subjects – **Chemistry, Botany and Zoology**, from Devi Ahilya Vishvavidhyalaya, Indore (M.P.) in 1995.

**HSC :** **Physics, Chemistry, Biology** from M.P. Board, Bhopal in 1992.

### Awards & Scholarships:

**CSIR-NET :** Qualified National Eligibility Test for Lectureship in 1999 & 2001.

**CSIR-SRF :** Senior Research Fellowship by CSIR (May 2003 - Feb. 2006).

*Nominated for G. C. Jain Memorial Prize for the Best Thesis in Material Science (Chemistry) for the year 2005-06.*

### Research Experience

- **Junior Scientist** at Central Food Technological & Research Laboratory, Mysore in Spice & Flavour Science Since **April 2014 till date**.
- **Scientist ‘B’** at North-East Institute of Science & Technology, Jorhat, Assam in Material Science Division since **February 2006 to April 2014**.
- **Senior Research Fellow (CSIR)** at National Physical Laboratory, New Delhi under the supervision of **Dr. Harish Chander**, Head, LMD Group from **May 2003 to February 2006**.
- **Project Assistant** in the project entitled “Development of Luminescent Screens” at National Physical Laboratory, New Delhi sponsored by Defence Laboratory, Jodhpur from **January, 2001 to November, 2002**.

### **Expertise in Experimental Techniques**

- Solid-state Reaction Technique
- Sol-gel Process
- Combustion Process
- Chemical Route
- Incipient Impregnation Technique

### **Instrumentation Proficiency**

- Photoluminescence Spectrophotometer
- Long Decay Measurement Device
- Electroluminescent Device
- Spin Coating Machine & Variable Speed Stirrer
- High Temperature (~1500°C) Furnaces
- UV-Visible Spectroscopy

### **Analytical Proficiency**

- Spectral Energy Distribution
- FT-Infrared Spectroscopy
- UV-Visible Spectroscopy
- Nuclear Magnetic Resonance Spectroscopy
- Transmission Electron Microscopy
- Scanning Electron Microscopy
- X-ray Diffraction
- Thermo gravimetric Analysis & Differential Thermal Analysis
- GC and High Pressure Liquid Chromatography

## Patents

**A Process for Preparation of Metal Oxides with dopants in lower valence state by Combustion Synthesis Technique in nanowires form.**

H. Chander, V. Shanker, D. Haranath, P. Sharma

**Patent No. US 8609053 dated 13-11-2014.**

**A Process for Preparing of nanowires of Metal Oxides with dopants in lower valence state**

H. Chander, V. Shanker, D. Haranath, P. Sharma

Harish Chander, Virendra Shanker, Divi Haranath, Pooja Sharma

**Patent No. ZL200810098697.5 dated June 4, 2009**

## Research Papers in International Journals

1. Pooja Rao, Hafiza khanum. (2016) *A green chemistry approach for nanoencapsulation of bioactive compound – Curcumin*. LWT- Food Science & Technology **65** 695.
2. Pooja Sharma, Siddartha Bhorodwaj, Dipak Kumar Dutta. (2008) *Ni Nanoparticles: Control size and morphology in meso porous clay*. Journal of Scientific Conference Proceedings **1** 39.
3. Pooja Sharma, D. Haranath, Harish Chander, Sukhvir Singh (2008) *Green Chemistry Approach for the Synthesis of Intense Green Light Emitting Long Persistent Phosphor in Nanoscale*, Applied Surface Science **254** 4052.
4. D. Haranath, Pooja Sharma, Harish Chander, Anwar Ali, N. Bhalla, S.K. Halder (2007) *Role of Boric Acid in Synthesis and Tailoring the Properties of Calcium Aluminate Phosphor*, Materials Chemistry and Physics **1** **101** 163.
5. D Haranath, Pooja Sharma, Harish Chander (2005) *Optimization of Boric Acid Content in Developing Efficient Blue Emitting, Long Persistent Phosphor*, Journal of Physics D: Applied Physics **38** (2005).
6. Harish Chander, D Haranath, Virendra Shanker, Pooja Sharma (2004) *Synthesis of Nanocrystals of Long Persisting Phosphor by Modified Combustion Technique*, Journal of Crystal Growth **27** 307.
7. D Haranath, Virendra Shanker, Harish Chander, Pooja Sharma (2003) *Tuning of Emission Colours in Strontium Aluminate Long Persisting Phosphor*, Journal of Physics D: Applied Physics **36** 2244.
8. D Haranath, Virendra Shanker, Harish. Chander, Pooja Sharma (2002) *Studies on the Decay Characteristics of Strontium Aluminate Phosphor on Thermal Treatment*, Materials Chemistry and Physics **78** 6.
9. Harish Chander, Virendra Shanker, D. Haranath, Suman Dudeja, Pooja Sharma (2003) *Characterization of ZnS:Cu, Br Electroluminescent Phosphor Prepared by New Route*, Materials Research Bulletin **38** 279.
10. D. Haranath, Harish Chander, Nitesh Bhalla, Pooja Sharma, K. N. Sood (2005) *Surface Distribution Studies and Improved Photoluminescence Characteristics of Silica Coated ZnS:Mn Nanophosphors Layers*, Applied Physics Letters **86** 201904.

11. D. Haranath, Harish Chander, **Pooja Sharma**, Sukhvir Singh (2006) *Enhanced Luminescence of  $Y_3Al_5O_{12}:Ce^{3+}$  Nanophosphor for White Light-Emitting Diodes*, Appl. Phys. Lett. **89** 173118.