

# CURRICULUM VITAE

---

## KAPILDEV K. ARORA

Department of Chemistry  
University of South Florida  
4202 E. Fowler Avenue, CHE 205  
Tampa, FL 33620-5250

Email ID: [karora@cas.usf.edu](mailto:karora@cas.usf.edu)



---

**Objective:** A fundamental and targeted research into the design and synthesis of novel materials using the principles of molecular recognition and crystal engineering.

### **Academics:**

**B.Sc.**, Chemistry, Botany and Zoology, March 1999, Nagpur University, INDIA.

**M.Sc.**, Chemistry, March 2001, Nagpur University, INDIA

**Ph.D.**, National Chemical Laboratory, Pune, INDIA

**Research Adviser:** Dr. V. R. Pedireddi

**Thesis title:** “A Study of Design and Noncovalent Synthesis of Supramolecular Assemblies”.

### **Research Interests:**

- Supramolecular chemistry and Crystal engineering
- Structure analysis through Powder X-ray diffraction methods
- Nanochemistry: Design and synthesis of novel nanoscale materials.
- Pharmaceutical co-crystallization and Polymorphism
- Protein crystallography

### **Research Experience:**

- Noncovalent synthesis of functional solids ranging from host-guest complexes to pharmaceutical co-crystals.
- Experience of handling single crystal X-ray diffractometer, powder X-ray diffractometer, DSC, TGA, IR, UV, etc.
- Hydrothermal crystallization, non-ambient crystallization processes.
- Computational Chemistry

### **Awards:**

- Director's Commendation Award for the work highlighted in the cover page of "*The Journal of Organic Chemistry*", Year **2003**, Volume 68, Issue 24, Page no. 9177 – 9185.
- National Chemical Laboratory Research Foundation "**KEERTI SANGORAM ENDOWMENT AWARD**" – Best Research Scholar of the year 2006.

### **Symposia/Invited Talks:**

- AsCA'03/Crystal-23 and Sagamore XIV Meeting, 10-18<sup>th</sup> August 2003, Broome, AUSTRALIA.
- Post – Nost Symposium, 2<sup>nd</sup> November 2003, NCL, Pune, INDIA.
- XXXIII National Seminar on Crystallography, 8-10<sup>th</sup> January 2004, NCL, Pune, INDIA.
- National Conference on Nanoscience and Technology, 7- 8<sup>th</sup> March, 2005, NCL, Pune, INDIA.
- RSC-student Symposium, West India section, 26-27<sup>th</sup> November 2005, NCL, Pune, INDIA.
- Eighth CRSI National Symposium, 3-5<sup>th</sup> February 2006, IIT Bombay, Mumbai, INDIA.

### **Research Publications:**

1. "A rational study of Crystal Engineering of Supramolecular Assemblies of 1,2,4,5-benzenetetracarboxylic acid". Arora, K. K.; Pedireddi, V. R. *J. Org. Chem.* **2003**, *68*, 9177 – 9185.
2. "A novel additive organic supramolecular assembly: Molecular complex of 3,5-dinitrobenzamide and 3,5-dinitrobenzotrile". Pedireddi, V. R.; PrakashaReddy, J.; Arora, K. K. *Tetrahedron Lett.* **2003**, *44*, 4857 – 4860.
3. "Host-guest complexes of 3,5-dinitrobenzotrile: channels and sandwich supramolecular architectures". Arora, K. K.; Pedireddi, V. R. *Tetrahedron* **2004**, *60*, 919-925.
4. "Poly(pseudo)rotaxane-like network mediated by hydrogen bonds in the solid-state structure of 1,7-phenanthroline". Arora, K. K.; Pedireddi, V. R. *Cryst. Growth Des.* **2005**, *5*, 1309 – 1312.
5. "Pyridine mediated supramolecular assemblies of 3,5-dinitro substituted benzoic acid, benzamide and benzotrile". Arora, K. K.; Pedireddi, V. R. *Tetrahedron* **2005**, *61*, 10793 – 10800.
6. "New synthetic approach to a [1.1.6]Metapara Cyclophane derivative via Suzuki – Miyaura Cross Coupling and Ring – Closing metathesis". Kotha, S.; Mandal, K. Arora, K. K.; Pedireddi, V. R. *Adv. Synth. Catal.* **2005**, *347*, 1215 – 1218.
7. "Can Salicylic Acid be Effectual Bioactive? A Quest through Co-crystallization studies". Arora, K. K.; Pedireddi, V. R. (Communicated).
8. "Supramolecular architectures ranging from Molecular sheets to poly(pseudo)rotaxanes employing 4,4'-N,N'-Bipyridine dioxide". Arora, K. K.; Pedireddi, V. R. (Communicated).
9. "A facile route for the synthesis of Gold nanoplates and nanoparticles". Arora, K. K.; Shimpi, M. R.; Pedireddi, V. R. (Communicated).
10. "A rational analysis of noncovalent synthesis of supramolecular assemblies of benzene tricarboxylic acid". Arora, K. K.; Pedireddi, V. R. (Communicated)

***Personal Information:***

**Father's name:** Mr. Kashmirilal Arora  
**Mother's name:** Mrs. Kailashwanti Arora  
**Spouse's name:** Mrs. Kirtee Arora  
**Date of Birth:** 4<sup>th</sup> February 1979  
**Marital status:** Married  
**Nationality:** Indian

***References:***

**1. Dr. Michael Zaworotko**

Department of Chemistry  
University of South Florida  
4202 E. Fowler Avenue, CHE 205A  
Tampa, FL 33620-5250

*Email:* [xtal@usf.edu](mailto:xtal@usf.edu)

**2. Dr. V. R. Pedireddi**

Division of Organic Chemistry  
National Chemical Laboratory  
Pune – 411 008 INDIA.

*Email:* [vr.pedireddi@ncl.res.in](mailto:vr.pedireddi@ncl.res.in)