

Dr. Venugopalan Paloth



Present position : Professor

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Education and Academic Qualifications: PhD (1991), Indian Institute of Science, Bangalore
Post-Doctoral Research Fellowships: University of Bern, Switzerland (1991-94)
SUNY, Buffalo, USA (1994-95)

Research Specialization
(Major scientific fields of interest)

Structure -activity correlations in solid state
Role of weak interactions in crystal engineering,
Reactions in solids, supramolecular chemistry,
Second sphere coordination in anion binding

Research Publications	159
Citation Index (Scopus, 26-3-14)	1656
Highest citation number (Scopus, 26-3-14)	237
H-Index (Scopus, 26-3-14)	20

Patent Information

Renu Chadha, Anupam Saini, Poonam Arora, D.V.S. Jain and P. Venugopalan. Multi-component crystalline form of Oxcarbazepine. Patent application no. 833/DEL/2012 filed in Indian Patent Office on 21.3. 2012. (Filed in Indian Patent Office through TIFAC, DST, New Delhi).

Scientific Work

Acquired good training in structural chemistry from leading institutions in India as well as labs in Europe and USA, known specially for research in X-ray diffraction fields. Made some contributions in the field of crystal engineering encompassing the role of weak interactions in molecular organizational aspects of supramolecular and lattice inclusion compounds. Salient features include:

- The experimental evidence for the existence of a planar form of cyclic water hexamer, which has been predicted by theoretical calculations.
- Generation of helices from simple organic systems by exploiting X...X and C-H...X interactions.
- Conformational control and photo-reactivity by C-H...O interactions.
- Identification and exploitation of new and novel supramolecular synthons.
- Exploitation of conformational rigidity for self-assembly and multi-component lattice inclusion.
- Generation of molecular architectures in inorganic complexes for anion capture using second sphere interactions.

Five representative publications

1. Helical self-assembly of substituted benzoic acids: Influence of weaker X...X and C-H...X interactions
J.N. Moorthy, R.Natarajan, P.Mal and **P.Venugopalan**, *J.Am.Chem.Soc.*, **2002**, 124, 6530-6531.
2. Characterization of a planar cyclic form of water hexamer in an organic supramolecular complex. An unusual self assembly of bimesityl-3,3'-dicarboxylic acid.
J.N. Moorthy, R.Natarajan, and **P.Venugopalan**, *Angew. Chem., Int. Ed.* **2002**, 41, 3417-3420
3. 'Rings and rectangles' mediated through weak interactions in ionic solids: Synthesis and packing analysis of [Co(NH₃)₆]Cl₂SeCN and [Co(NH₃)₆]₃Cl₄(N₃)₅ in the crystalline state
R. P. Sharma, R. Bala, R. Sharma and **P. Venugopalan**, *CrystEngcomm.*, **2006**, 8, 215-221.
4. Trigonal rigid triphenols: Self-assembly and multicomponent lattice inclusion
Moorthy, J.N., Natarajan, P., Bajpai, A., **Venugopalan, P.**, **2011**, *Cryst. Growth Des.*, 11, 3406-3417.
5. Self-assembly of conformationally rigid dialcohols (bis-benzocyclobutenols) : Supramolecular cyclophanes and arrays
A. Bajpai, P.Venkatakrishnan, S. Mandal, S.Samanta, **P.Venugopalan**, J.N. Moorthy, **2013**, *Cryst., Growth Des.*, 13, 4714-4720.

Awards and distinctions: Visiting Scientist, University of Bern, Switzerland (2005-2006)

Official Assignments

1. Convener, 50th Annual Convention of Chemists: Golden jubilee celebrations of Indian Chemical Society, December4-7, 2013, PU, Chandigarh.
2. Member of UGC-Advisory committee of UGC, Govt. of India for UGC-DRS program (2013-2018) of S.V. University, Tirupati,