

CURRICULUM VITAE

Name : NISHA KUMARI

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EDUCATION:

Ph.D. Chemistry – Bharathiar University
Research topic: Synthesis & Characterisation of Organophosphorous Compounds related to P-N & P-S bond. (Submitted in May 2017)

: March 2012 – March 2017

Advisor: Dr. Arvind Kumar Gupta (Scientist-F).

Institute: Defence R&D Establishment, Gwalior, M.P.

M.Sc. Organic chemistry – 1st Division - Osmania University

: June 2008 – June 2010

Institute: Science College of OU Campus, Hyderabad, T.S.

B.Sc. Chemistry Honours – 1st Division - Veer Kunwar Singh University

: July 2004 – July 2007

Institute: DSSV College, Simri, Buxar, Bihar.

Senior Secondary Education - Biology, Physics and Chemistry – 1st Division - State Board of Bihar

: June 2002 – June 2004

Institute: Sumitra Mahila College, Dumraon, Buxar, Bihar.

Secondary School Education – 1st Division - State Board of Bihar

: March 2001–March 2002

Institute: Maharani Usharani Girls High School, Dumraon, Buxar, Bihar.

FELLOWSHIPS:

- **CSIR-UGC-NET-JRF**, March 2012 to March 2014
- **CSIR-UGC-SRF**, March 2014 to March 2017

RESEARCH EXPERIENCE:

On the basis of NET-JRF qualification, I joined Defence R&D Establishment (DRDE), Nagpur as Junior Research Fellow (15th March 2012). Here, I started working in Synthetic and Analytical Laboratory under the supervision of Dr. Arvind Kumar Gupta, Sc. 'F'. I focused my interest for the development of efficient, clean and green methods for the synthesis of different organophosphorus compounds having application as pesticides, toxins and chemicals.

- Eco friendly, solvent free, surface mediated synthesis of hydrazides of organophosphorus acids.
- Microwave assisted synthesis of organophosphorus marine fish toxins.
- (Dichloroiodo)benzene mediated synthesis of thiophosphates through oxidative coupling of H-phosphonates with alkyl/aryl thiols.
- Synthesis of precursor for Chemical warfare Agents.

- Purification of the compounds by column chromatography & vacuum distillation.

INSTRUMENTS HANDLED

My working laboratory was equipped with highly sophisticated analytical instruments such as;

- FT-NMR (BRUKER 400 MHz)
- GC-MS (Agilent)
- FT-IR (BRUKER)

I personally handle/operate and get expertise for the operation of these instruments. This expertise of analytical instruments such as GC-MS(CI & EI), FT-IR, NMR(^1H , ^{13}C , ^{19}F , ^{31}P , DEPT-135, COSY, HSQC, NOESY) was used for the characterisation of organophosphorus compounds.

ATTENDED SEMINAR:

- International Conference on “Frontiers at the chemistry-Allied Sciences Interface (FCASI-2016)” 25th to 26th April, 2016 held at **Center of Advanced Study, Department of Chemistry, University of Rajasthan, Jaipur (India)**.
- National seminar on “Modern Methods in Organic Synthesis (MMOS 2017)” 21st to 22nd March 2017 at **PG Teaching Department of Chemistry, RTMN University, Nagpur (India)**.

PUBLICATIONS:

1. Microwave-Assisted Synthesis of bis-(N,N-dialkyl)/O-aryl N,N-dialkyl -2-(1-methyl / phenyl-2-oxopropylidene) Phosphorohydrazido Oximes on a Solid Support under Solvent Free Conditions: Marine Fish Toxin Analogues.
Nisha Kumari, Naresh Vyas and Arvind K. Gupta
Phosphorus, Sulfur, Silicon and the related elements Volume 192, Issue 7, 2017, PP 831-834
2. Calcium Oxide: An Inexpensive Solid Support for Solvent Free Synthesis of Phosphorohydrazides and Thiophosphorohydrazide at Room Temperature
Nisha Kumari, Naresh Vyas, Hitendra.N.Karade and A.K.Gupta
International Journal of Advanced Research in Chemical Science (IJARCS) Volume 3, Issue 1, January, 2016, PP 26-33
3. (Dichloroiodo) Benzene Mediated Synthesis of Thiophosphates through Oxidative Coupling of H-phosphonates with alkyl/aryl Thiols. (Communicated)
Nisha Kumari, Naresh Vyas, Arvind Kumar Gupta and Hitendra N. Karade
Manuscript under communication
4. Rapid, Efficient, and Facile Solvent Free Surface-mediated Method for Synthesis of Phosphorohydrazides at room temperature by using Calcium Oxide as a Solid Support.
Nisha Kumari, Naresh Vyas and A. K. Gupta, *International Conference on Frontiers at the Chemistry-Allied Sciences Interface* held at Jaipur, April 25-26, 2016.(Poster presentation)
5. Development of Rapid and Efficient one-pot Method for the Synthesis of Bis (2-methoxyethyl) N,N-dialkyl phosphoramidates.
Naresh Vyas, **Nisha Kumari** and A. K. Gupta, *International Conference on Frontiers at the Chemistry-Allied Sciences Interface* held at Jaipur, April 25-26, 2016.(Poster presentation)