

# Dr Bhanushree Gupta

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**Project – 01 (Funded by Chhattisgarh Council of Science & Technology, Raipur)**

## Invited /Expert Talks

- Online webinar series organized by Department of Engineering Sciences, Ramarao Adik Institute of Technology, Navi Mumbai, 9<sup>th</sup> July, 2020.
- National Level e-PG Chemistry Workshop “Chemistry in our Daily Life”, organized by Govt. P.G. College Kawardha & Govt. RVRS Girls College Kawardha (C.G.), 23<sup>rd</sup> June 2020 To 28<sup>th</sup> June 2020
- UGC-SAP (DRS - II), 2<sup>nd</sup> National Conference on Advances in Environmental & Chemical Sciences, organized by School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur, 22<sup>nd</sup> March 2018- 23<sup>rd</sup> March 2018.

**Publications/Book Chapters – 25**

**(Citations)- 338**

**(h-index)- 11**

**(i10- index)- 12**

## **Academic Background:**

- **2006-2008:** Masters of Sciences, Pt Ravishankar Shukla University Raipur, India
- **2008-2009:** Masters of Philosophy, Pt Ravishankar Shukla University Raipur, India
- **2011-2015:** Ph.D. (in Development and assessment of antidotes of organophosphate-inhibited acetylcholinesterase enzyme)
- **Project Scientist:** Department of Chemistry, Indian Institute of Technology, Kanpur, India. **(2015)**
- **Research Associate:** Process Technology Development Division, DRDE, Gwalior, India. **(2016 to 2017)**
- **Assistant Professor:** Center for Basic Sciences, Pt Ravishankar Shukla University, Raipur, Chhattisgarh, India **(2017-Present)**

## **Research Interests:**

• **Development of antidotes of organophosphorous compounds** Organophosphorous compounds are toxic chemicals which target enzyme acetylcholinesterase. Oxime based reactivators are generally applied to counteract their intoxication. We perform the assessment of several physicochemical properties (like acid dissociation constant:  $pK_a$  and lipophilicity:  $\log P$  and other molecular descriptors) of structurally different AChE reactivators. We also investigate In-vitro reactivation kinetics and structure activity analysis (SAR) of oximes based reactivators.

### • **Detoxification and Detection of Toxic Esters**

- ✚ Detoxification of organophosphate simulants (esters) in micellar media.
- ✚ Sensitive and rapid detection of organophosphate toxicants is highly relevant and important in environmental protection and food safety. We are interested in development of nano sensors for various toxic chemicals/metals etc.

### • **Essential oils: Extraction and Their Biological Activities**

Essential oils are volatile liquids obtained from aromatic/medicinal plants and responsible for several important biological activities (like anti- oxidant, anti-microbial, anti-inflammatory etc.) of plant. We are interested in extraction of essential oils of several spices, herbs and medicinal plants. We are also exploring chemical characterization and their biological activities.

## **Awards and Honors**

- **Chhattisgarh Young Scientist Award in Chemistry**, 12<sup>th</sup> Chhattisgarh You Scientist Congress, Feb. 17-19, **2014** Raipur, India.
- **CSIR Senior Research Fellowship for 2014-2015.**
- **Young Scientist Award (Association of Kineticists Award)**, 50<sup>th</sup> An Convention of Chemists-2013, Dec.3-7, **2013**, Panjab University, Chandig India
- **EUROTOX Fellowship** to attend present poster in **EUROTOX 2013**, 49<sup>th</sup> Congress of the European Societies of Toxicology, Sep. 1-4, Interlake Switzerland.
- **CSIR Travel award (July 2013)** for attending the **EUROTOX 2013**, Sep. Interlaken Switzerland.
- **Young Scientist Award (Association of Kineticists Award)**, 49<sup>th</sup> An Convention of Chemists-2012, Dec.12-15, **2012**, Bhopal (M. P).