

# Nitesh Dhiman

Nanomaterial Toxicology Group  
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## Research Experience

### PhD in Chemical Science

#### Academy of Scientific and Innovative Research (AcSIR)

Nov, 2021

CSIR-Indian Institute of Toxicology Research Campus (CSIR-IITR), Lucknow, India.

**Title of thesis:** “Design and synthesis of advance hybrid nanomaterials for water decontamination” under Dr. Satyakam Patnaik CSIR-IITR, Lucknow, India

## Educational Qualifications

### ➤ Master of Technology Molecular engineering: Chemical Synthesis & Analysis

Indian Institute of Technology New Delhi (IIT-D)      2012-2014      GPA 8.750

**Title of thesis:** “Development of Polymeric Matrices and Nanoparticles for Immuno-Based Detection of Analyte and Pathogenic Bacteria” under Prof. Harpal Singh, IIT-D, New Delhi, India

➤ **Master of Science in Chemistry**      2009-2011      73.14%  
**Banasthali University, Rajasthan, India**

➤ **Bachelor of Science Hons. in Chemistry**      2006–2009      72.54%  
**University of Rajasthan, Jaipur India**

## Academic Achievements & Fellowships

- Award of **2020 SOT Graduate travel support grant** to attend 59<sup>th</sup> Annual meeting and ToxExpo in Anaheim, California.
- **Senior Research Fellowship** from Council of scientific & Industrial Research (CSIR), New Delhi, India from August 2016.
- **Junior Research Fellowship** from Council of scientific & Industrial Research (CSIR), New Delhi, India during August 2014 – July 2016.
- Secured **56** rank in subject chemical science in joint CSIR-UGC test for Junior Research Fellowship and Eligibility for Lectureship (**NET**) held in June 2012 conducted by Council of scientific & Industrial Research (CSIR), New Delhi, India.
- Secured **26** rank in subject chemical science in joint CSIR-UGC test for National Eligibility Test (**NET**) held in Dec 2011 conducted by Council of scientific & Industrial Research (CSIR), New Delhi, India.
- Qualified Graduate Aptitude Test in Engineering (GATE)-2012 in Chemical Science with GATE **Score-378** organized by Indian Institute of Technology, New Delhi, India.

## Skills

- **Nanomaterials synthesis** (Metallic, Quantum Dots, Liposomes)

- **Polymer Synthesis** via sol-gel synthesis, emulsion polymerization, atom-transfer radical-polymerization, redox polymerization
- **Characterization Techniques:** Dynamic Light Scattering (DLS), Fourier Transform Infrared Spectroscopy (FT-IR), Absorbance and Fluorescence Spectroscopy, Thermogravimetric Analysis (TGA), BET Analysis, Raman Spectroscopy, Atomic Force Microscopy (AFM), X-Ray Diffraction (XRD).
- Assessing cell metabolic activity (MTT assay), Estimation of reactive oxygen species (ROS)
- Bacterial culture and estimation of inhibition of bacterial activity
- **Software:** Origin, Image J, Prism, Design Expert, Chem Draw, Mestresnova

## Teaching Experience

- One year experience as teaching assistance in IIT- Delhi.

## Publications

A total number of **15** research articles, one review and one book chapter have been published in **international journals**.

### First Author Publications

1. Markandeya, **Nitesh Dhiman**, Sheo P.Shukla, Devendra Mohan, Ganesh C. Kisku, and Satyakam Patnaik "Comprehensive remediation study of disperse dyes in wastewater using cenospheres nanosyntactic foam" Journal of Cleaner Production: Impact factor (5.651) (Equally contribution)
2. **Nitesh Dhiman**, Markandeya Tiwari, Faimy Fatima, Prem N. Saxsena, Somendu Roy, Prashant K. Rout and Satyakam Patnaik "Predictive Modeling and Validation of Arsenite Removal by One pot Synthesized Bioceramic Buttressed Manganese doped Iron oxide Nanoplatfrom" RSC Advances, Impact Factor 3.289
3. **Nitesh Dhiman**, Markandeya, Amrita Singh, Neeraj K. Verma, Nidhi Ajaria, Satyakam Patnaik "Statistical optimization and artificial neural network modeling for acridine orange dye degradation using in-situ synthesized polymer capped ZnO nanoparticles" Journal of colloidal and interface Science: Impact Factor 3.782

### Top Five Recent Articles

1. Vivek Kumar Gaur, Raj Kumar Regar, **Nitesh Dhiman**, Krishna Gautam, Janmejai Kumar Srivastava, Satyakam Patnaik, Mohan Kamthan, Natesan Manickam" Biosynthesis and characterization of sophorolipid biosurfactant by *Candida* spp.: Application as food emulsifier and antibacterial agent" Bioresource Technology: 6.669.
2. Aditya K Kar, Amrita Singh, Nitesh Dhiman, Mahaveer P Purohit, Pankaj Jagdale, Mohan Kamthan, Dharendra Singh, Mahadeo Kumar, Debabrata Ghosh, Satyakam Patnaik "Polymer assisted in situ synthesis of silver nanoparticles with epigallocatechin gallate (EGCG) impregnated wound patch potentiate controlled inflammatory responses for brisk wound healing" International Journal of Nanomedicine: 4.471
3. Anurag K Srivastav, **Nitesh Dhiman**, Hafizurrahman Khan, Jyoti Prakash, Dharendra Singh, Satyakam Patnaik and Mahadeo Kumar "Impact of Surface Engineered ZnO Nanoparticles on Protein Corona Configuration and Their Interactions with Biological system", Journal of Pharmaceutical Sciences: 3.075
4. Sandeep Mittal, Veeresh Kumar, **Nitesh Dhiman**, Lalit Kumar Singh Chauhan, Renu Pasricha and Alok Kumar Pandey "Physico-chemical properties based differential toxicity of

grapheneoxide/reduced graphene oxide in human lung cells mediated through oxidative stress” Scientific Reports 6:39548: Impact Factor 5.228

5. Neeraj K. Verma, Mahaveer P. Purohit, Danish Equbal, **Nitesh Dhiman**, Amrita Singh, Aditya K. Kar, Jai Shankar, Sarita Tehlan, and Satyakam Patnaik “Targeted smart pH and thermoresponsive N,O-carboxymethyl chitosan conjugated nanogels for enhanced therapeutics efficacy of doxorubicin in MCF-7 breast cancer cells” Bioconjugate Chem 27 (2016) 2605-2619: Impact Factor 4.413

## Conferences

Presented my research work in 8 National/International conferences.

## Research Interest

Design of hybrid novel nanomaterials including polymeric nano-composites, dendrimers, liposomes, niosomes for therapeutics, sensing, catalytic and nano-remediation applications.

## Professional Membership

Chemical Research society of India (life time membership)

## References

### 1. Dr. Satyakam Patnaik (Senior Scientist)

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### 2. Dr. Natesan Manickam (Chief Scientist)

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